L 09308-67 EWT(m)/EWP(j) IJP(c) RM/WW

ACC NR: AP6023946 SOURCE CODE: UR/0233/65/000/006/0034/0038

AUTHOR: Kerimov, K. A.; Teymurov, F. D.

ORG: none

TITLE: Investigation of viscous-elastic-plastic properties of polymer materials subjected to transverse impact

SOURCE: AN AzerbSSR. Izv. Ser fiz-tekhn i matem n, no. 6, 1965, 34-38

TOPIC TAGS: polymer, caprone, polyvinyl chloride, solid viscosity, elastic wave, plasticity

ABSTRACT: This is a continuation of earlier dynamic tests on polymer materials (rubber, caprone, polyvinyl (Tr. Vsesoyuznogo simpoziuma po rasprostraneniyu uprugo-plasticheskikh voln v sploshnykh sredakh, Baku, 1964 and elsewhere) where a model was proposed, unifying the elastic-plastic and viscous properties of polymers. This model is used to develop a procedure for the investigation of polymers with viscous-elastic-plastic properties by using transverse impact. This method is based on knowledge of the time dependence of the tension, obtained by recording tension waves reflected from the points where the sample is secured, and integrating the corresponding equations with the aid of an electronic digital computer. The individual functions involved in this model, expressing the viscous and elastic-plastic properties of the polymer, can

Card 1/2

L 09308-67

ACC NR: AP6023946

also be determined from the solution. Results of an experimental determination of the mechanical properties of polyvinyl and caprone threads agree well with the calculations. Orig. art. has: 3 figures and 5 formulas.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 003

Card 2/2

USSR / Soil Science. Soil Genesis and Geography. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6047.

Author : Tsymurov, K.
Inst : Not given.
Title : The Part Played by Transpiration in the Restoration of Salinized Soil.

Orig Pub: Khlopkovodstvo, 1958, No 1, 57-58.

Abstract: No abstract.

Card 1/1

AKHUNDOV, A.K.; TEYMUROV, K.G.

Leaching periods for saline soils with a predominance of sulfate and sodium salts. Dokl.AN Azerb.SSR 16 no.10:977-980 '60.
(MIRA 14:1)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii.
(Azerbaijan--Saline and alkali soils)

AKHUNDOV, A.K.; TEYMUROV, K.G.

Results obtained from investigating the leaching of heavy soils salinized by sodium sulfate. Pochvovedenie no.5:112-113 My '60. (MIRA 14:4)

(Solonchak soils) (Leaching)

TEYMUROV, K.G.

New combined improvement system for forced improvement of solonetz soils and soda-sulfate solonchaks. Dokl. AN Azerb. SSR 17 no. 2:137-140 '61. (MIRA 14:4)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii. Predstavleno akademikom AN Azerbaydzhanskoy SSR G.A. Aliyevym.

(Solonetz soils) (Solonchak soils)

L 40247-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) BC

ACC NR: AP6021376 SOURCE CODE: UR/0423/65/000/012/0012/0013

57
55
8

AUTHOR: Teymurov, V. M.

ORG: Institute of Cybernetics, AN Azerbaydzhan SSR (Institut kibernetiki AN Azerbaydzhanskoy SSR)

TITLE: Industrial operation control model (IOCM)

SOURCE: Za tekhnicheskiy progress, no. 12, 1965, 12-13

TOPIC TAGS: industrial organization, data processing, industrial automation

ABSTRACT: The author describes a method for making a visual operation model (in tabular form) suitable for the analysis, correction, and control of production processes. The model easily provides: critical sequence, subcritical sequence, early completion time, late completion time, alternate sequences, etc. A sample theoretical problem is set up on a scale chart of time columns and horizontal lines representing possible sequences of progression. The chart is formed on a board with cutout slots for each course. A movable slide is used to indicate the stage at the projected time of completion, marked along the time scale at the top. Events may be scaled to a calendar. A data processing group can process information, set up the chart, and provide results to users. Analysts can then take proper steps to insure timely

UDC: 658.315:35.001.57

Card 1/2

L 40247-66

ACC NR: AP6021376

production with the least effort. For complex production items, automation and scale reduction of the chart may be required for successful operation. This work was discussed at a seminar "Industrial Automation - Control" conducted at MGU under the guidance of Prof. Lyusternik, L. A. Orig. art. has: 1 figure and 1 table.

SUB CODE: 13,09/SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 000

Card 2/2 MLP

MARINESKU, G. [Marinescu, G.]; TEYNDEL', K.; PREDESKU, I.; SHTARK, M.; KONSTANTINESKU, M.; SANDULESKU, T.

Paralysis of the facial nerve in influenza. Vop. virus 6 no.4:509-510 Jl-Ag '61. (MIRA 14:11)

1. Virusologicheskiy institut Akademii Rumynskoy Narodnoy Respubliki i kliniki infektsionnykh bolezney "Kolentina", Bukharest.
(PARALYSIS, FACIAL) (INFLUENZA)

TEYNRIKHSDORF, N. G. (Nizhniy Tagil)

"A method of obtaining joinings of pipes of various diameters from stainless steel and the alloy AMts." There was developed the technology of welding and original burning to execute seams inside pipes of small diameter. For the first time there has been achieved joining of pipes from heterogeneous metals, which may work under very rigid conditions.

Report presented at the 1st All-Union Conference on welding of heterogeneous metals, at the Inst of Electric Welding im. Ye. O. Paton, 14-15 June 1963. (Reported in Avtomaticheskaya svarka, Kiev, No. 9, Sept 1963, pp 95-96 author, V. R. Ryabov)
JPRS 24,651 19 May 64

TEYROVSKY, V.

SCIENCE

Periodicals: Ceskoslovenska spolecnost entomologicka.CASOPIS. ACTA SOCIETATIS ENTOMOLOGICAE CECHOSLOVENIAE. Vol. 52, 1955.

TEYROVSKY, V. Studies of the zoogeography and ecology of aquatic insects. p. 205.

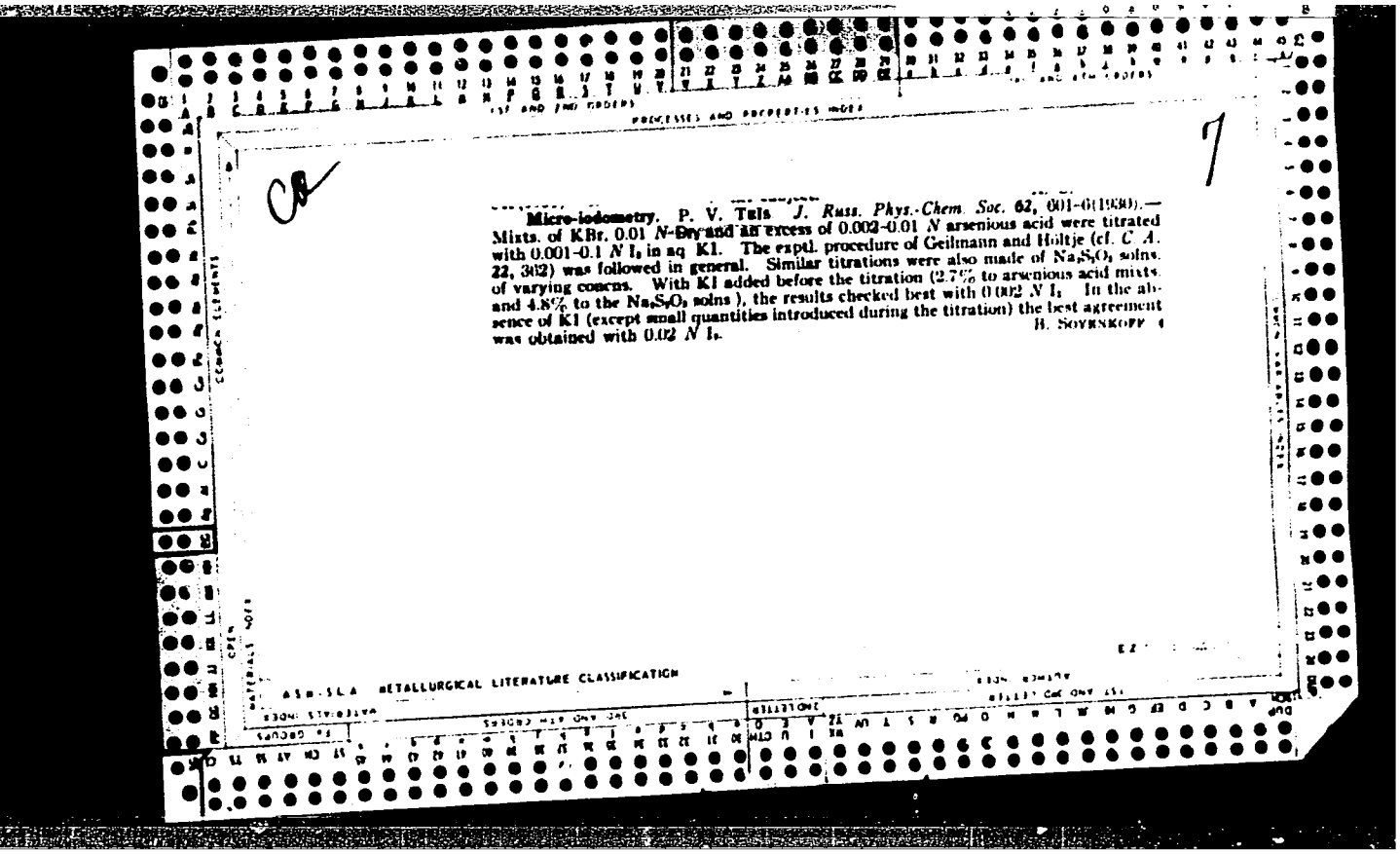
Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 5, May 1959, Unclass.

TEYROVSKY, Vladimir

Table of waterbug fauna of Silesia. Part 4: Osoblaha area 1951-1961. Prid cas slezsky 23 no.3:289-310 '62.

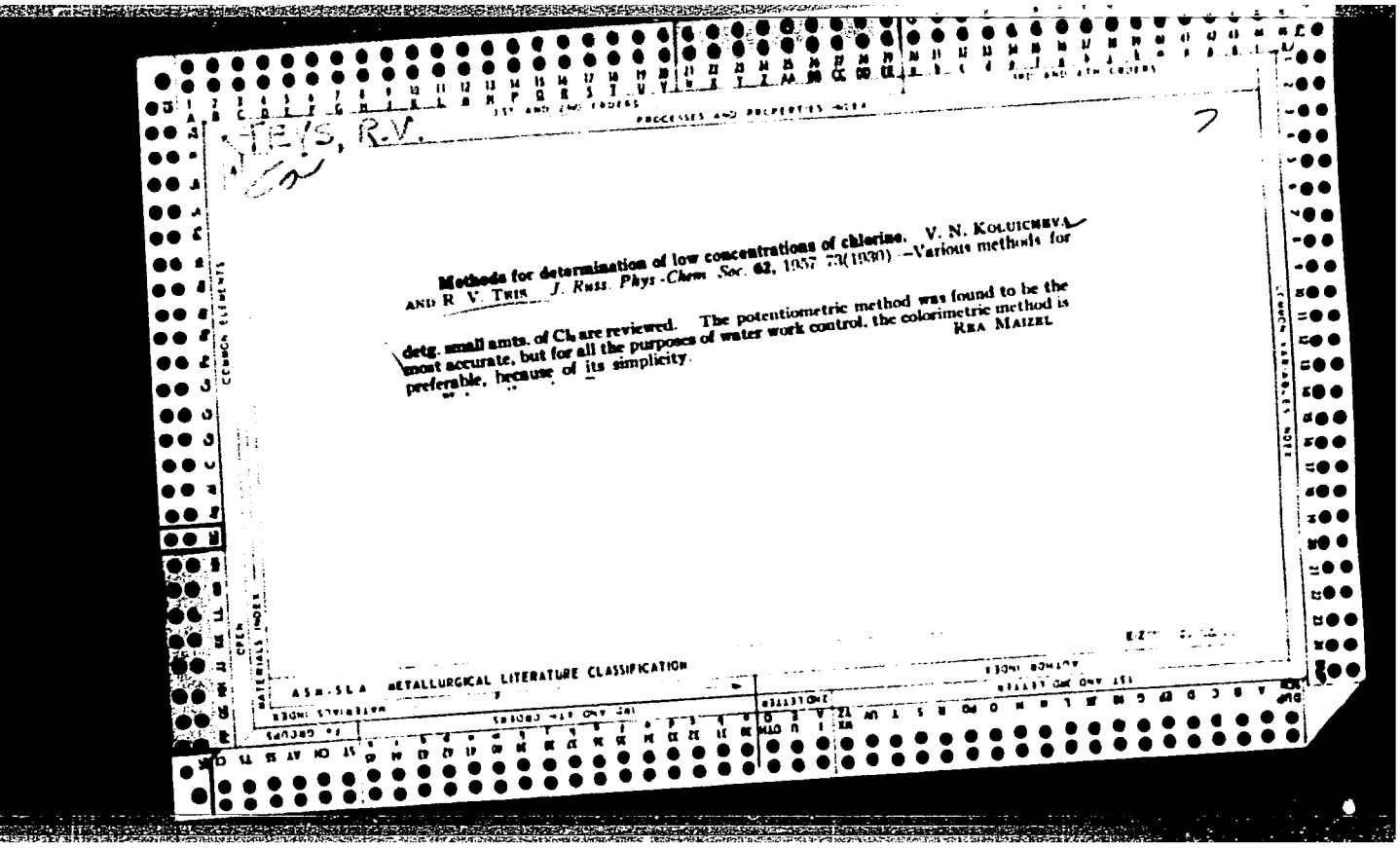
AYZENBERG, D.M. (Moskva); TEYS, R.V., doktor khim.nauk (Moskva)

Controversy about heavy water. Priroda 55 no.1:108-109 Ja '66. (MIRA 19:1)

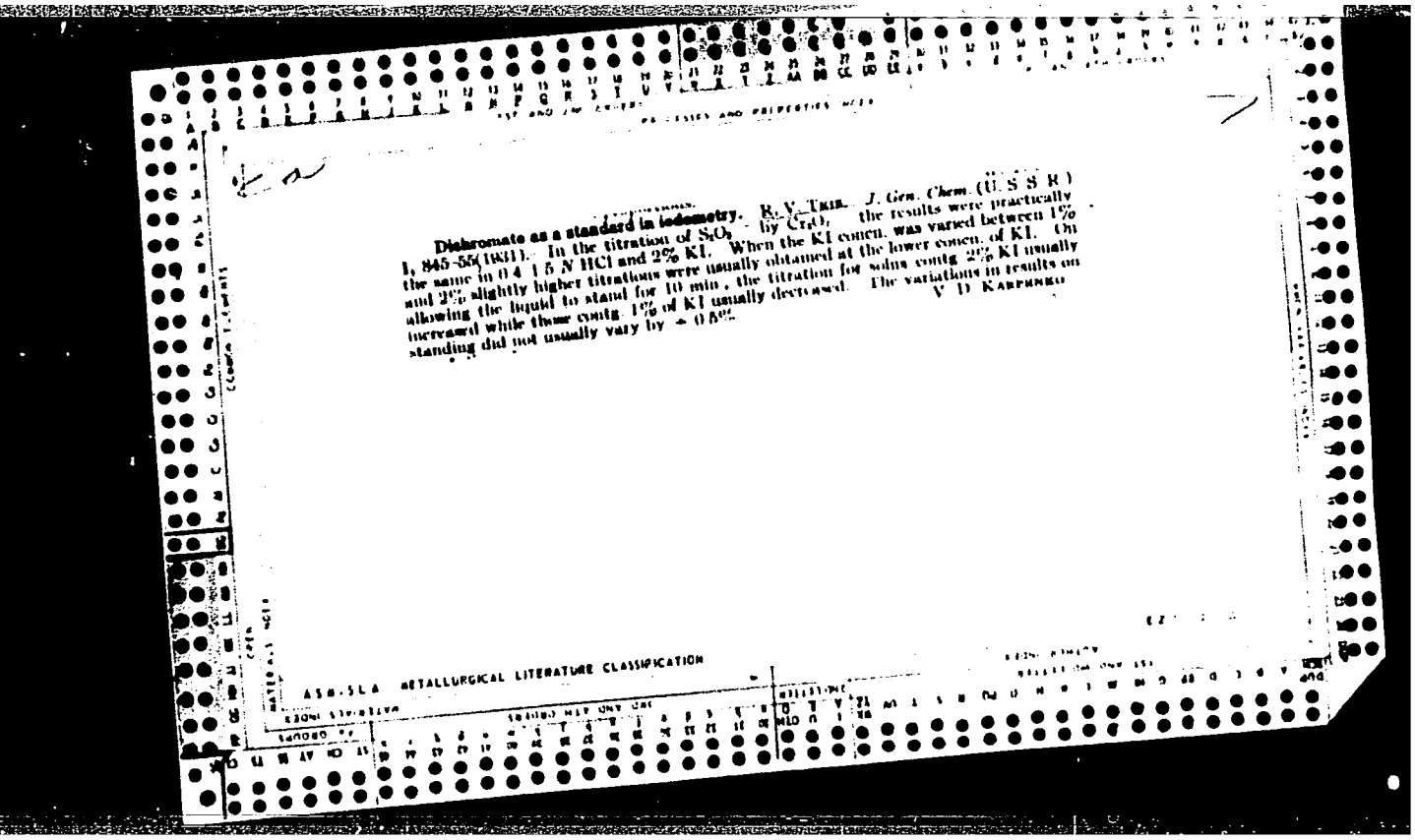


Micro-iodometry. P. V. Tels *J. Russ. Phys.-Chem. Soc.* **62**, 601-6(1930).—Mixts. of KBr, 0.01 *N*-Br and an excess of 0.002-0.01 *N* arsenious acid were titrated with 0.001-0.1 *N* I_2 in aq KI. The exptl. procedure of Geilmann and Holtje (cf. *C. A.* **22**, 302) was followed in general. Similar titrations were also made of $Na_2S_2O_3$ solns. of varying concns. With KI added before the titration (2.7% to arsenious acid mixts. and 4.8% to the $Na_2S_2O_3$ solns.), the results checked best with 0.002 *N* I_2. In the absence of KI (except small quantities introduced during the titration) the best agreement was obtained with 0.02 *N* I_2.

B. SOVENKOFF

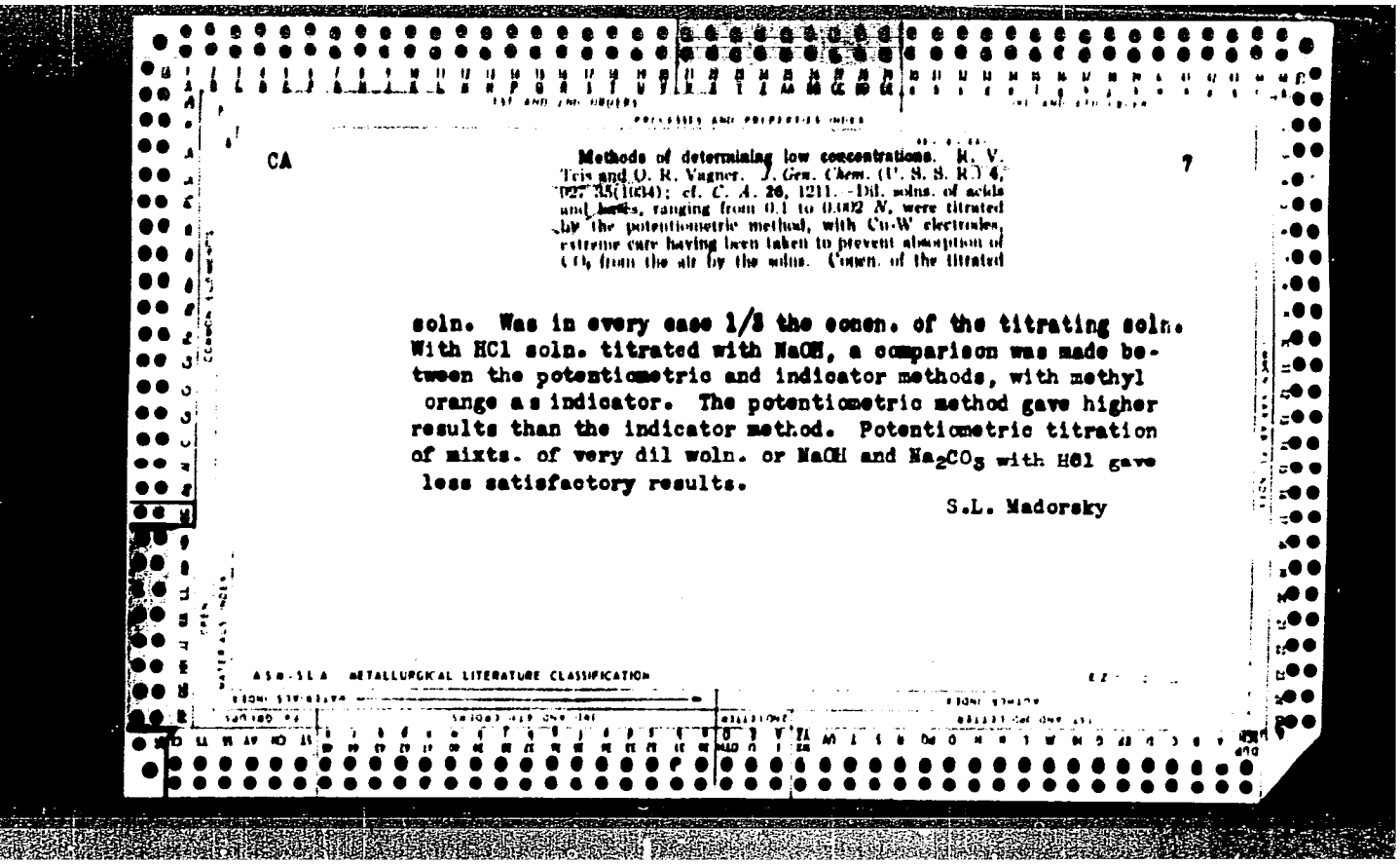


Methods for determination of low concentrations of chlorine. V. N. Kolichneva and R. V. Theis. *J. Russ. Phys.-Chem. Soc.* **62**, 1057-73(1930).—Various methods for detg. small amts. of Cl_2 are reviewed. The potentiometric method was found to be the most accurate, but for all the purposes of water work control, the colorimetric method is preferable, because of its simplicity.
Rea Maizel



Dichromate as a standard in iodometry. R. V. Tikh. *J. Gen. Chem.* (U. S. S. R.) 1, 845–55(1931). In the titration of $S_2O_3^{--}$ by $Cr_2O_7^{--}$, the results were practically the same in 0.4–1.5 *N* HCl and 2% KI. When the KI concn. was varied between 1% and 2% slightly higher titrations were usually obtained at the lower concn. of KI. On allowing the liquid to stand for 10 min., the titration for solns. contg. 2% KI usually increased while those contg. 1% of KI usually decreased. The variations in results on standing did not usually vary by ± 0.5%. V. D. Karpenko

A58-5L4 METALLURGICAL LITERATURE CLASSIFICATION



CA 7

Methods of determining low concentrations. R. V. Tris and O. R. Vagner. *J. Gen. Chem.* (U. S. S. R.) 4, 927-35(1934); cf. *C. A.* **28**, 1211. -Dil. solns. of acids and bases, ranging from 0.1 to 0.002 *N*, were titrated by the potentiometric method, with Cu-W electrodes, extreme care having been taken to prevent absorption of CO_2 from the air by the solns. Concn. of the titrated soln. was in every case 1/2 the concn. of the titrating soln. With HCl soln. titrated with NaOH, a comparison was made between the potentiometric and indicator methods, with methyl orange as indicator. The potentiometric method gave higher results than the indicator method. Potentiometric titration of mixts. of very dil soln. of NaOH and Na_2CO_3 with HCl gave less satisfactory results.

S.L. Madorsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

1

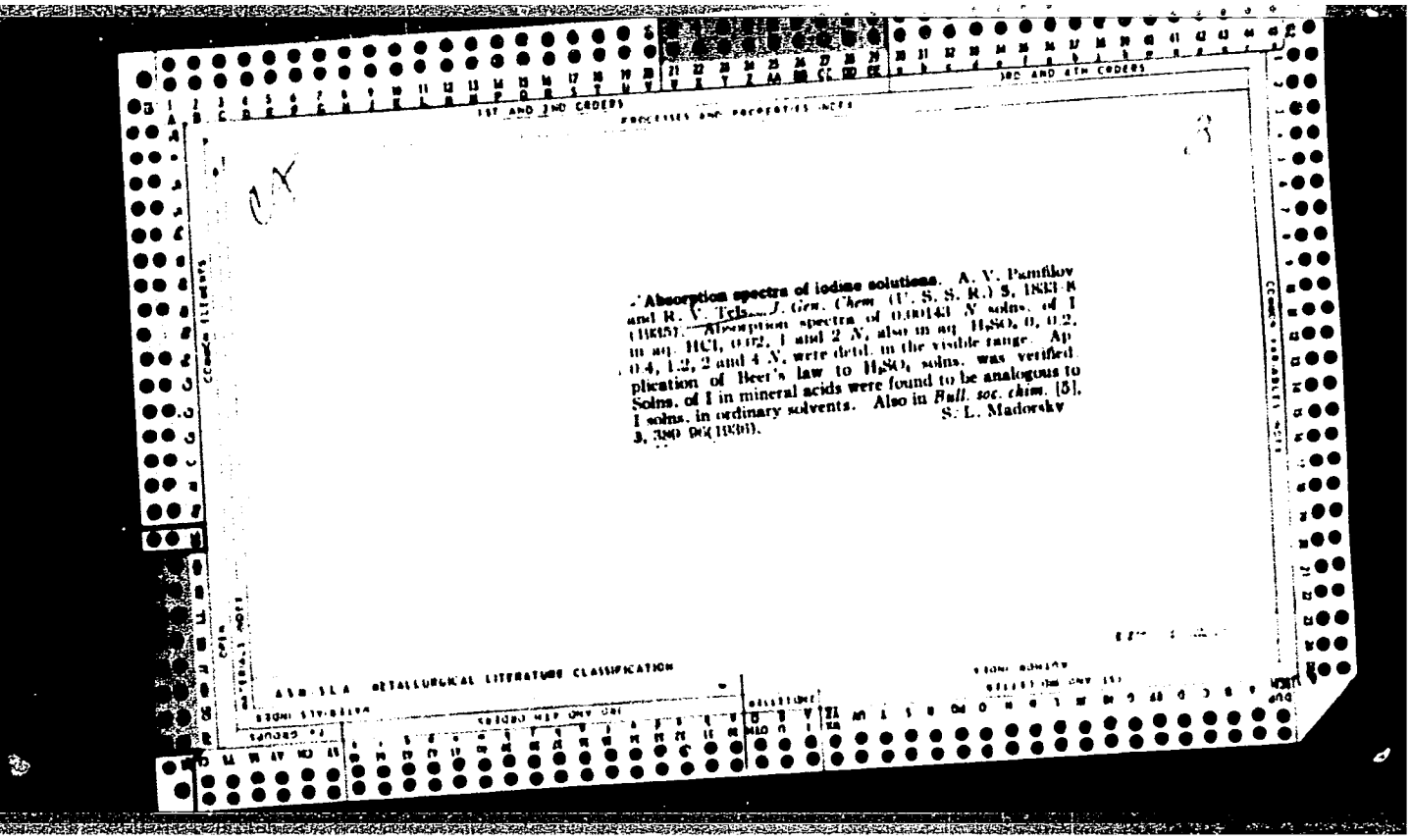
PROCESSES AND PROPERTIES INDEX

Microiodometry. III. Effect of concentration of iodide in dilute iodine solution. R. V. Teis. *J. Gen. Chem.* (U. S. S. R.) 4, 1304-9(1934); cf. *C. A.* 25, 48. Titration of I with $Na_2S_2O_3$ was carried out in 0.0018 *N* I

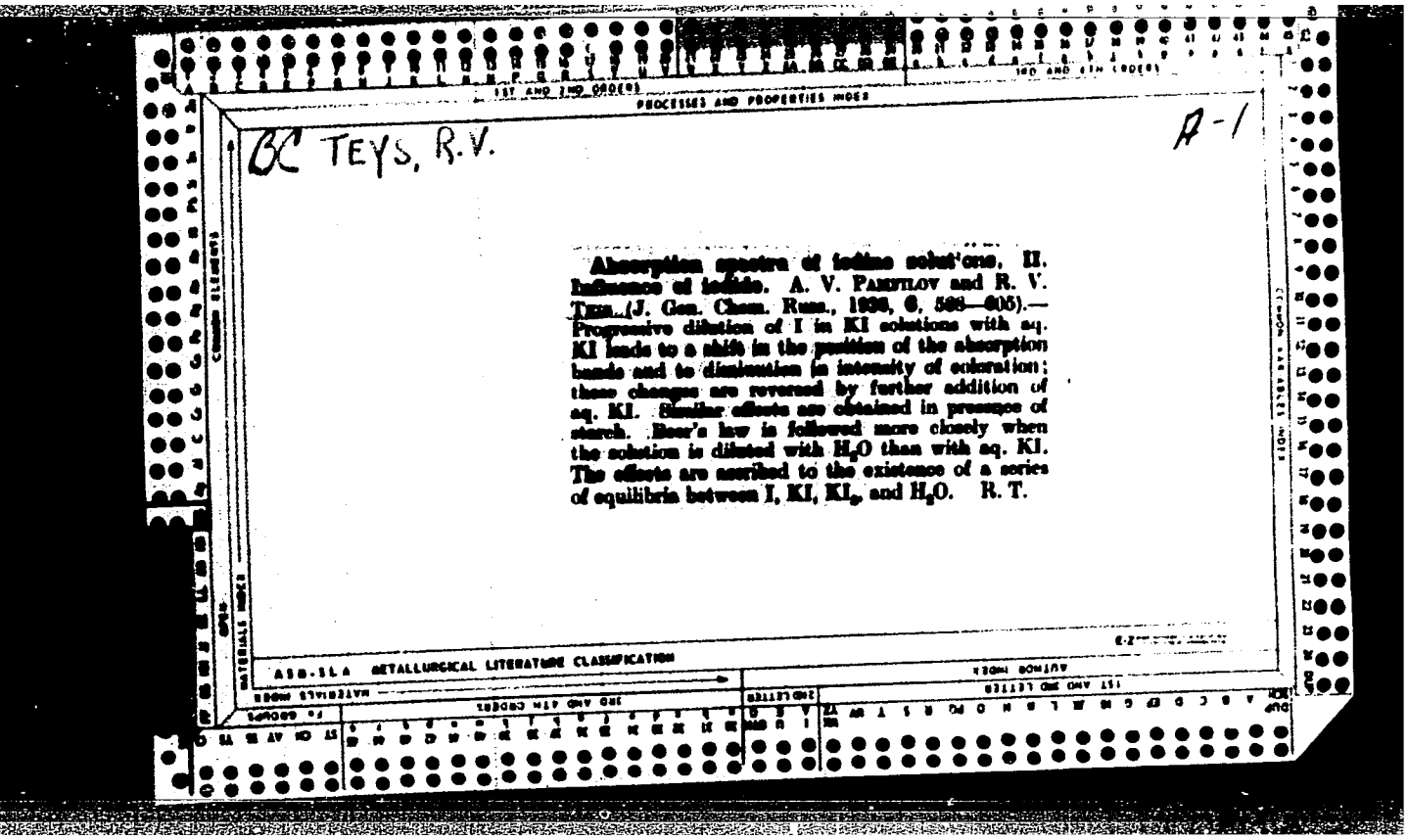
soln., contg. various concns. of KI (0.08, 0.1, 0.2, 0.4, 1.0, 2.0 and 4.0%). It was observed that in solns. contg. 1% KI titration proceeds smoothly and normally, but in more dil. solns. titration proceeds in steps, the blue color appearing and disappearing alternately. This last phenomenon is explained on the basis of hydrolysis of I, $I_2 + H_2O \rightleftharpoons HI + HIO$, as suggested by Popoff and Whitman. This reaction is favored in the direction to the right in dil. solns., and to the left in more concd. KI solns. Conclusion: With 0.002-0.001 *N* I solns., a KI concn. of 1% is sufficient, since a higher concn. does not help sensitivity.

S. L. Madorsky

METALLURGICAL LITERATURE CLASSIFICATION



Absorption spectra of iodine solutions. A. V. Pamfilov and R. C. Tcha. *J. Gen. Chem.* (U. S. S. R.) 5, 1831-8 (1935). Absorption spectra of 0.00143 *N* solns. of I in aq. HCl, 0.02, 1 and 2 *N*, also in aq. H_2SO_4 0, 0.2, 0.4, 1.2, 2 and 4 *N*, were detd. in the visible range. Application of Beer's law to H_2SO_4 solns. was verified. Solns. of I in mineral acids were found to be analogous to I solns. in ordinary solvents. Also in *Bull. soc. chim.* [5], 3, 799-804 (1936). S. L. Madorsky

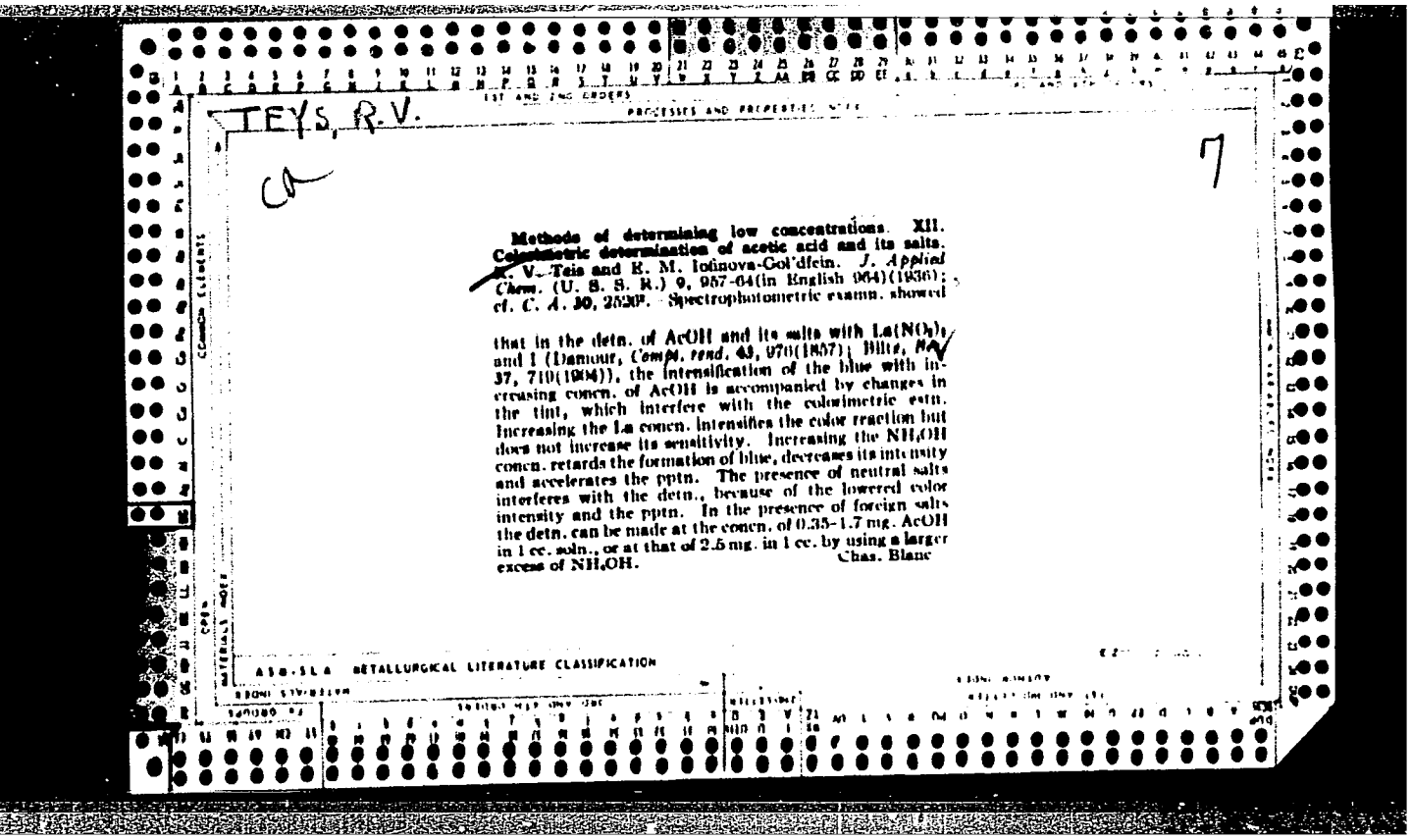


BC TEYS, R.V.

A-1

Absorption spectra of iodine solutions. II. Influence of iodides. A. V. PAVLOV and R. V. TEIS. (J. Gen. Chem. Russ., 1938, 8, 598—605).—Progressive dilution of I in KI solutions with aq. KI leads to a shift in the position of the absorption bands and to diminution in intensity of coloration; these changes are reversed by further addition of aq. KI. Similar effects are obtained in presence of starch. Beer's law is followed more closely when the solution is diluted with H_2O than with aq. KI. The effects are ascribed to the existence of a series of equilibria between I, KI, KI_3, and H_2O. R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



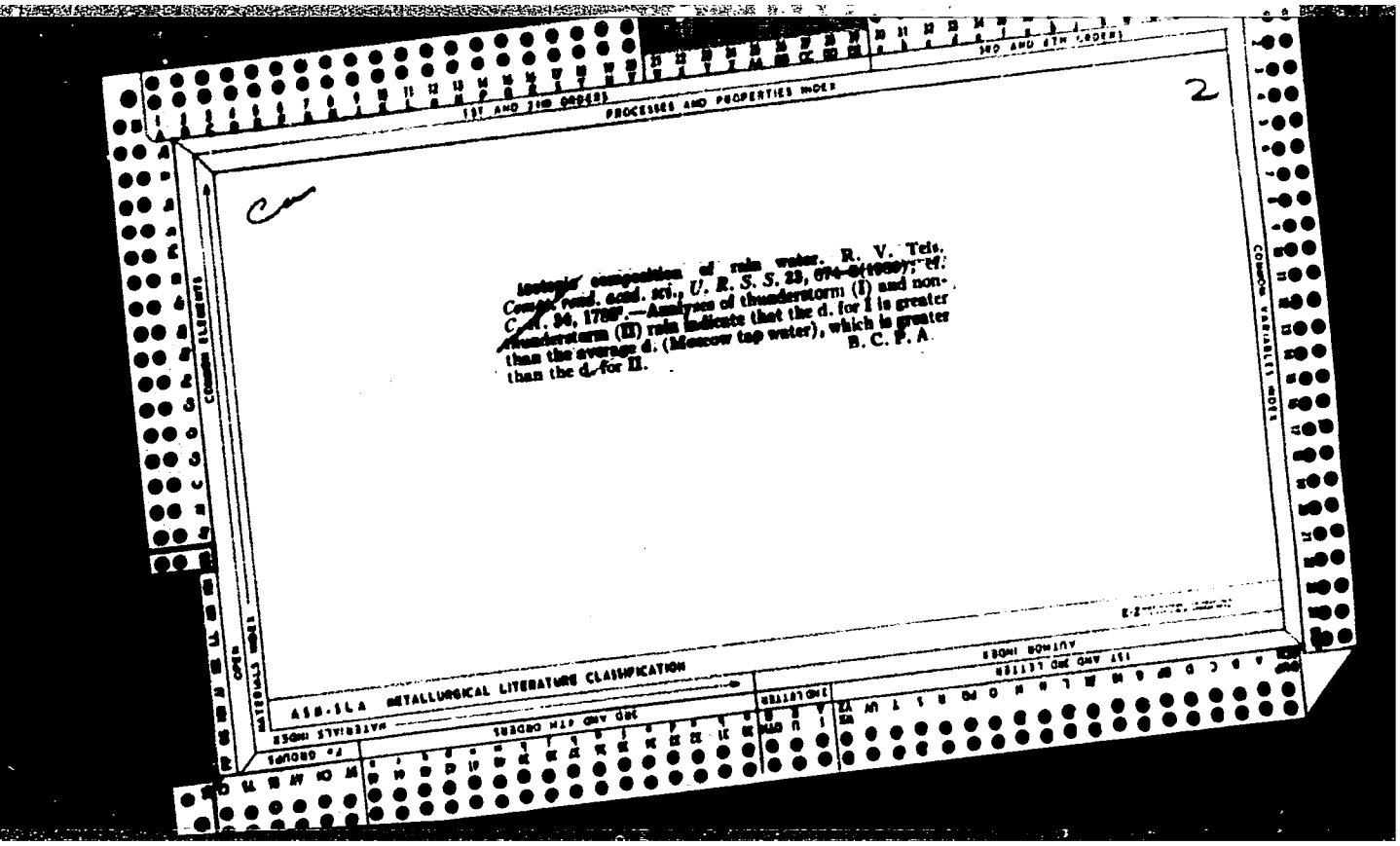
TEYS, R.V.

7

Methods of determining low concentrations. XII. Colorimetric determination of acetic acid and its salts. R. V. Teis and E. M. Iofinova-Gol'dfein. *J. Applied Chem.* (U. S. S. R.) 9, 957-64(in English 964)(1936); cf. *C. A.* **30**, 2529⁹. Spectrophotometric examn. showed that in the detn. of AcOH and its salts with $La(NO_3)_3$ and I (Damour, *Compt. rend.* 43, 970(1857); Bilta, *Ber.* 37, 710(1904)), the intensification of the blue with increasing concn. of AcOH is accompanied by changes in the tint, which interfere with the colorimetric estn. Increasing the La concn. intensifies the color reaction but does not increase its sensitivity. Increasing the NH_4OH concn. retards the formation of blue, decreases its intensity and accelerates the pptn. The presence of neutral salts interferes with the detn., because of the lowered color intensity and the pptn. In the presence of foreign salts the detn. can be made at the concn. of 0.35–1.7 mg. AcOH in 1 cc. soln., or at that of 2.5 mg. in 1 cc. by using a larger excess of NH_4OH.

Chas. Blanc

A59-5L A METALLURGICAL LITERATURE CLASSIFICATION



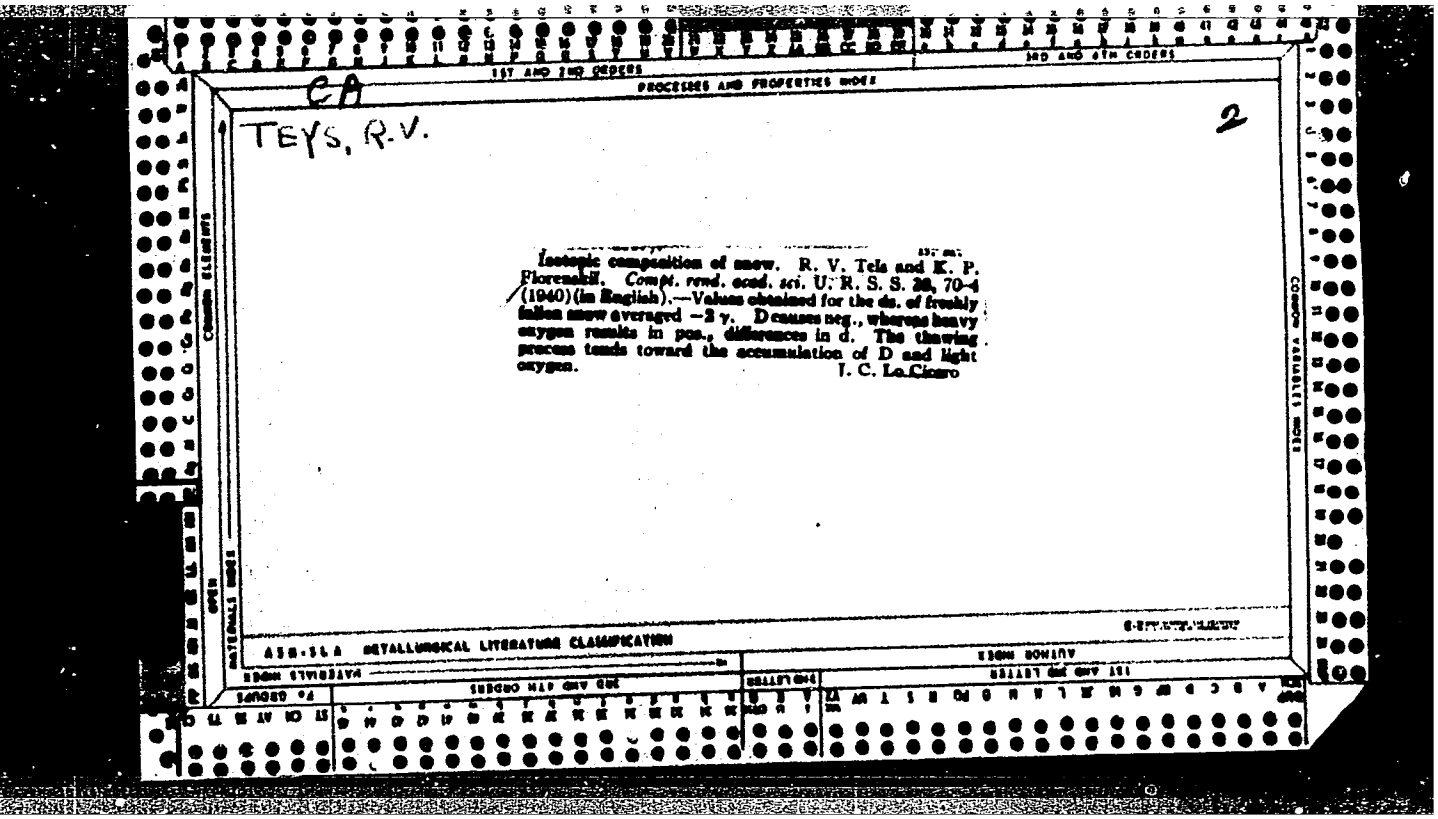
[illegible] composition of rain water. R. V. Tels. *Compt. rend. acad. sci., U. R. S. S.* 23, 694–6(1939); cf. *C.A.* 34, 1789⁸.—Analyses of thunderstorm (I) and non-thunderstorm (II) rain indicate that the d. for I is greater than the average d. (Moscow tap water), which is greater than the d. for II.
B. C. P. A.

TEYS, R.V.

14

Isotopic composition of water from some rivers and lakes of the U. S. S. R. R. V. Teis. *Compt. rend. acad. sci. U. R. S. S.* **24**, 779-82(1939)(in English). A comparison of the densities of water samples taken in different points of the U. S. S. R., purified by the method of ... tion temps. and the method of flotation pressures, fur- nished density differences ranging from 0 to 2.? γ for the rivers and from +2.2 to ... γ for the lakes. As a rule lake water is denser by 2 γ than river water. The water from the rivers of the Transbaikal region is lighter than that of the other rivers measured. The water of rivers and lakes fed with melting ice and snow has a lower density and cannot be used as a standard for density measurements. ... references. A. H. Krapps

METALLURGICAL LITERATURE CLASSIFICATION



CA

TEYS, R.V.

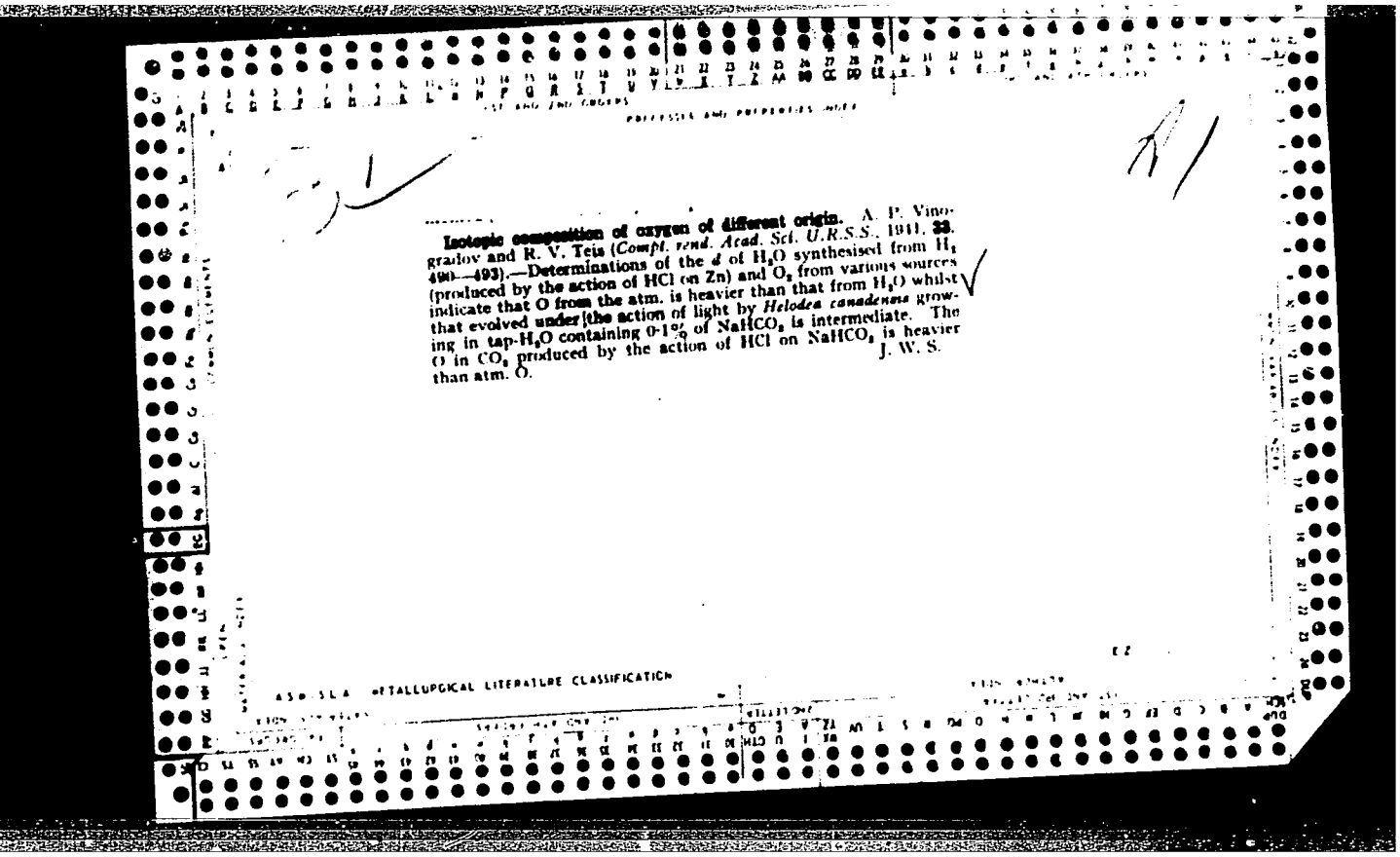
2

Isotopic composition of snow. R. V. Teis and K. P. Florenskii. *Compt. rend. acad. sci. U. R. S. S.* 28, 70-4 (1940) (in English).—Values obtained for the ds. of freshly fallen snow averaged −2 γ. D causes neg., whereas heavy oxygen results in pos., differences in d. The thawing process tends toward the accumulation of D and light oxygen.
I. C. Lo.Cicero

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Distribution of isotopes of hydrogen and oxygen during freezing of water. R. V. Taia and K. P. Florenski (*Compt. rend. Acad. Sci U.R.S.S.*, 1941, **32**, 199—202).—Initial stages of freezing of H_2O give ice containing increased [^{18}O] and decreased [D]; as freezing progresses the ice approximates in composition to the water. The max. observed separation, in density units referred to liquid water, is $\Delta d_{^{18}O} = +14{\cdot}6\gamma$ and $\Delta d_D = -8{\cdot}0\gamma$, after freezing 4·5%. The effect is obscured by stirring, but is found in natural ice.

L. J. J.

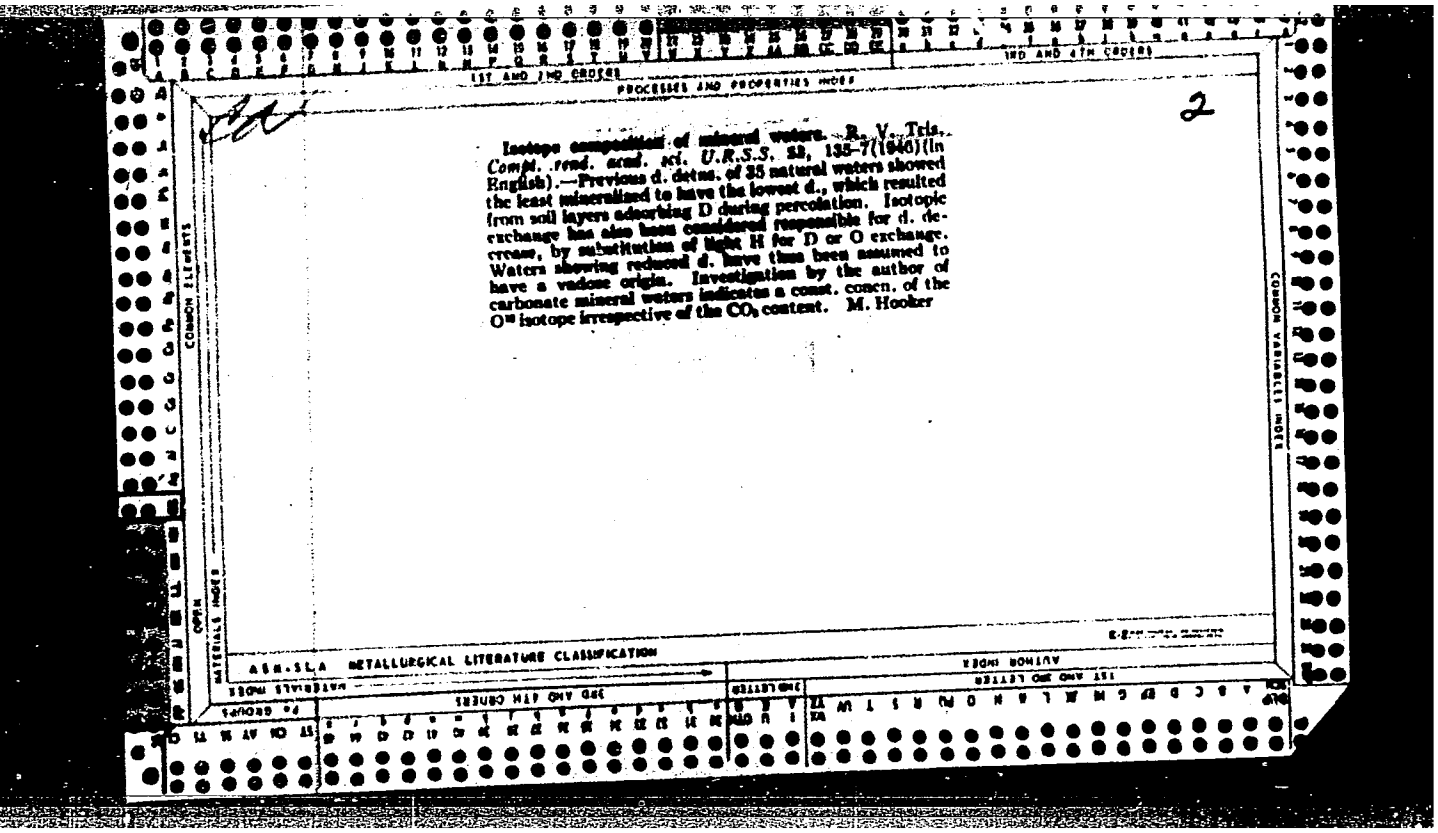


Isotopic composition of oxygen of different origin. A. P. Vinogradov and R. V. Teis (*Compt. rend. Acad. Sci. U.R.S.S.*, 1941, **33**, 490—493).—Determinations of the *d* of H_2O synthesised from H_2 (produced by the action of HCl on Zn) and O_2 from various sources indicate that O from the atm. is heavier than that from H_2O whilst that evolved under the action of light by *Helodea canadensis* growing in tap-H_2O containing 0·1% of $NaHCO_3$ is intermediate. The O in CO_2 produced by the action of HCl on $NaHCO_3$ is heavier than atm. O. J. W. S.

TEIS, R. V.

Isotopic composition of the waters of Upper Svanetian glaciers. R. V. Teis and K. P. Florenskiy (W.I. Vernadsky Lab. Geochem. Problems, Acad. Sci. U.S.S.R.). Compt. rend. acad. sci. U.R.S.S. 47, 640-1; Doklady Akad. Nauk S.S.S.R. 47, 666-7 (1945) D content of glacer water is lower than that of Ingur River water; heavy-O content is equal or somewhat higher. Isotopic compn. of glacier water and river water in Upper Svanetia is similar.

Marjorie Hooker



Isotope composition of mineral waters. R. V. Tris. *Compt. rend. acad. sci. U.R.S.S.* 28, 135–7(1940)(In English).—Previous d. detns. of 35 natural waters showed the least mineralized to have the lowest d., which resulted from soil layers adsorbing D during percolation. Isotopic exchange has also been considered responsible for d. decrease, by substitution of light H for D or O exchange. Waters showing reduced d. have thus been assumed to have a vadose origin. Investigation by the author of carbonate mineral waters indicates a const. concn. of the O^{18} isotope irrespective of the CO_2 content. M. Hooker

Variation in deuterium concentration in the process of melting of ice. R. V. Tris (Acad. Sci. U.S.S.R., Leningrad). *Compt. rend. acad. sci. U.R.S.S.* 53, 529-32 (1946)(in English); cf. C.A. 35, 2379⁴.—The d. and n of cleaned samples of snow from the Moscow and Yaroslavl provinces and of ice samples were measured to det. the change of D concn. during melting. The D content of the water formed upon melting depended on the stage of melting, being low at first and increasing as melting continued. The lower D content in the first stages persists for a longer time if the melting takes place in contact with the water formed. The increase in D concn. in the solid phase proceeds at a much faster rate than would be expected from the ratio of the initial and residual amts. of ice.

Ernst M. Cohn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

TEYS, R. V., KHARINA, Z. V., BALANDIN, A. A.

"Isotopic Exchange in the Hydrogenation of Benzene with Deuterium over Platinum and Chromic Oxide Catalysts," A. A. Balandin, Z. V. Kharina
"Compt Rend Acad Sci Urss" Vol 53, 1946, pp715-18

During the hydrogenation of benzene over a Pt-on-asbestos catalyst and over Cr_2O_3, it was observed that exchange with D occurred. Under the conditions of the experiment, i.e., at 100° with the Pt catalyst and with a H-benzene mole ratio of 4, complete hydrogenation was achieved, but with the Cr_2O_3 catalyst at 160° and with other conditions the same, the degree of hydrogenation was about 8-12%, whereas the degree of isotopic exchange amounted to as much as 74%.

SO: W-336, 31 Mar. 48.

TEYS, R. V.

VINOGRADOV, A. P. and R. V. TEYS "New Determination of the Isotopic Composition of Oxygen in Photosyhthesis,"

Dok. AN, 56, No. 1, 1947.

TEYS, R. V.

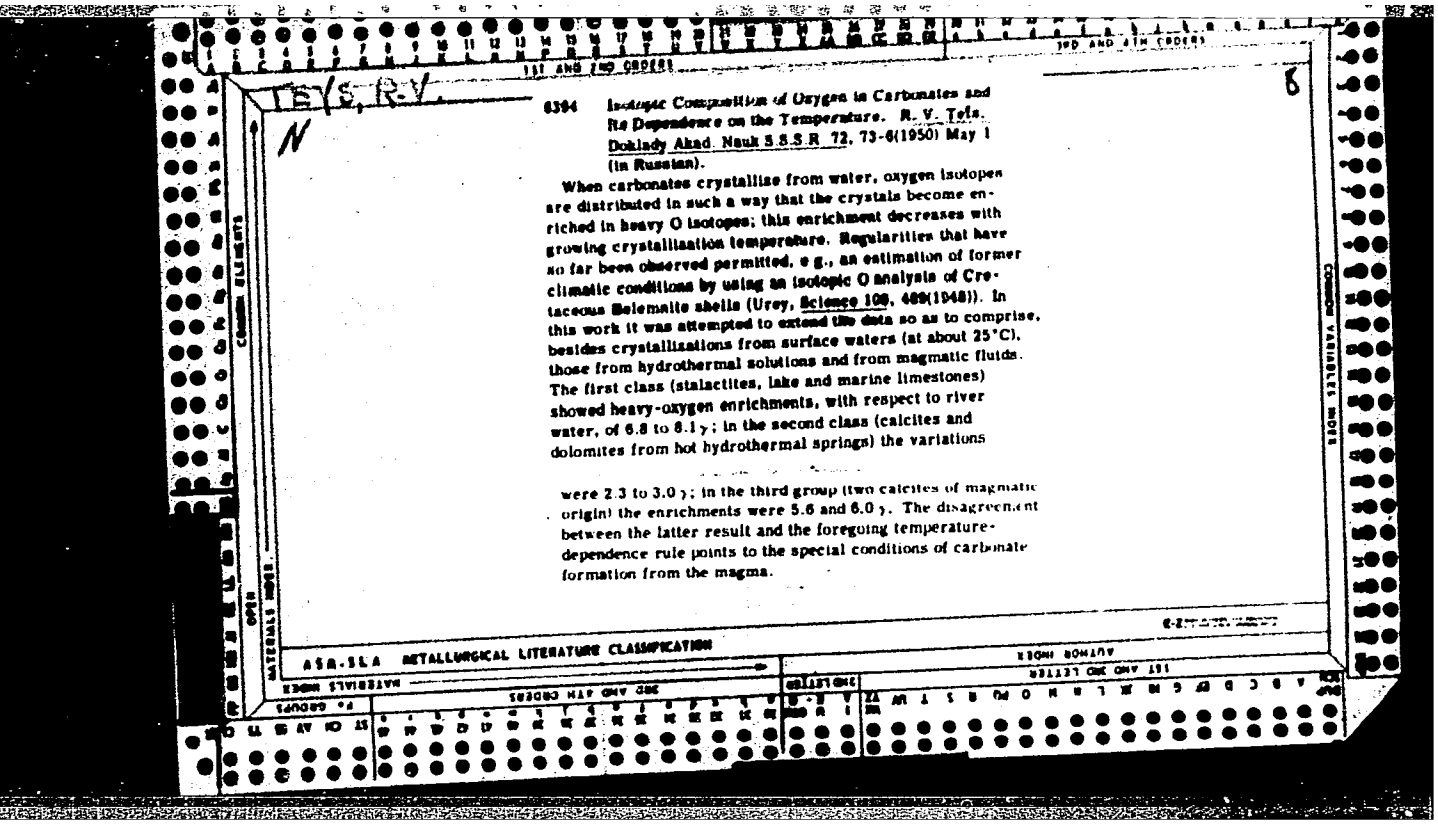
USSR/Nuclear Physics - Isotopes Sep 48
Chemistry - Ice, Analysis

"Isotopic State of Fossil Ice," R. V. Teys, Inst of Geochem and Anal Chem imeni V. I. Vernadskiy, Acad Sci USSR, 3 pp

"Dok Ak Nauk SSSR" Vol LXII, No 3

Isotopic analysis of a number of samples of fossil ice of various ages and conditions of formation. Table of results gives: sample source, sample description, and condensation (total due to D_2O and O^{18}). Submitted by Acad D. S. Belyankin, 29 Jul 48.

[redacted] 36/49T68



6394 *Isotopic Composition of Oxygen in Carbonates and Its Dependence on the Temperature.* R. V. Teis. Doklady Akad. Nauk S.S.S.R. 72, 73-6(1950) May 1 (in Russian).

When carbonates crystallize from water, oxygen isotopes are distributed in such a way that the crystals become enriched in heavy O isotopes; this enrichment decreases with growing crystallization temperature. Regularities that have so far been observed permitted, e.g., an estimation of former climatic conditions by using an isotopic O analysis of Cretaceous Belemnite shells (Urey, Science 108, 489(1948)). In this work it was attempted to extend the data so as to comprise, besides crystallizations from surface waters (at about 25°C), those from hydrothermal solutions and from magmatic fluids. The first class (stalactites, lake and marine limestones) showed heavy-oxygen enrichments, with respect to river water, of 6.8 to 8.1 γ; in the second class (calcites and dolomites from hot hydrothermal springs) the variations

were 2.3 to 3.0 γ; in the third group (two calcites of magmatic origin) the enrichments were 5.6 and 6.0 γ. The disagreement between the latter result and the foregoing temperature-dependence rule points to the special conditions of carbonate formation from the magma.

CA

11W

Isotopic composition of the oxygen of organic compounds of vegetable origin. R. V. Teis. *Doklady Akad. Nauk S.S.S.R.* 72, 351-3(1950).—The isotopic compn. of O was detd. for samples of glucose and for cellulose. The glucose samples were a lab. prepn. and corn glucose and the cellulose sample was absorbent cotton. The samples were treated with pure H which reacted with the O to form water. The water which was formed was contaminated by volatile compds. formed in the dry distn. Therefore, it was subjected to electrolysis in an acid medium and the O which was collected was reacted with H to form water. The isotopic compn. was detd. by detg. the flotation temp. for a quartz float. If Vinogradov's scheme for the process of photosynthesis viz., $CO_2^* + 2\,H_2O = CH_2O^* + H_2O^* + O_2$ (*C.A.* 42, 1822*f*) is taken as the most probable, then all of the heavy O of CO_2 should remain in the org. substance of the plant. Therefore the isotopic compn. should be close to that of the O in CO_2. The exptl. data coincides with this conclusion.

J. Rovtar Leach

TEYS, R.V.

V The isotopic composition of waters of crystallization. R. V Teis. *Doklady Akad. Nauk S.S.S.R.* 99, 585–8(1954).— The double-exchange tendency of O^{18} isotope in recrystn. of $Na_2CO_3.10H_2O$, $BaCl_2.2H_2O$, $Na_2SO_4.10H_2O$, and $CaSO_4.2H_2O$ was studied. Most hydrates were obtained by recrystg. the anhyd. salts from waters contg. varying amts. of the O^{18} isotope, except the $CaSO_4.H_2O$ which was formed by combining dil. solns. of $CaCl_2$ and Na_2SO_4. The O-isotope content of the crystals was detd., and was found to be higher than in the water from which the salts were crystd., whereas the D content was lower. As a confirmation, the O^{18} in the mother liquor was found to be higher than in the original water used, and the D concn. was lower.

W. M. Sternberg

62

TEYS, R.V.

Isotope content in the water of crystallization. Dokl. AN SSSR 99 no.4:585-588 D '54. (MLRA 8:2)

1. Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo Akademii nauk SSSR. Predstavleno akademikom A.P.Vinogradovym.
(Crystallization, Water of) (Isotopes)

TEYS, R.V.

AID P - 1567

Subject : USSR/Chemistry

Card 1/1 Pub.119 - 2/5

Author : Teys, R. V. (Moscow)

Title : Method of isotopic paleothermometry

Periodical : Usp. khim., 24, no.2, 163-180, 1955

Abstract : Conditions necessary for application of the method of isotopic paleothermometry are reviewed. Examples for measuring paleotemperatures are given. Ten tables, 4 diagrams, 31 references (11 Russian: 1939-54)

Institution: None

Submitted : No date

TEYS, R.V.

D.

USSR/ Cosmochemistry. Geochemistry. Hydrochemistry

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11548

Author : Teys R.V.
Title : Isotope Composition of the Oxygen of Natural Sulfates

Orig Pub : Geokhimiya, 1956, No 3, 28-32

Abstract : A study of isotope exchange of oxygen in aqueous solutions of sulfates in neutral, acid and alkaline media, at different temperature. Magnitude of exchange was determined from changes in concentration of O^{18}, in enriched water, before and after the experiment, from increase in O^{18} concentration in sulfate after exchange with enriched water and after exchange of enriched sulfate with ordinary water. Values of ΔO^{18} (in %): for sedimentary sulfates (5 samples) 1.9 - 3.3; sulfates of volcanic origin (3 samples) 1.3 - 4.4; hydrothermal barite 2.3. Determined were exchange half-periods, isosteres are presented of the exchange of Na_2SO_4 with water and $Na_2SO_4 + CO_2$ and the isotherm of the exchange of Ca and Na sulfates with Gaseous CO_2 at 775°.

Card 1/2

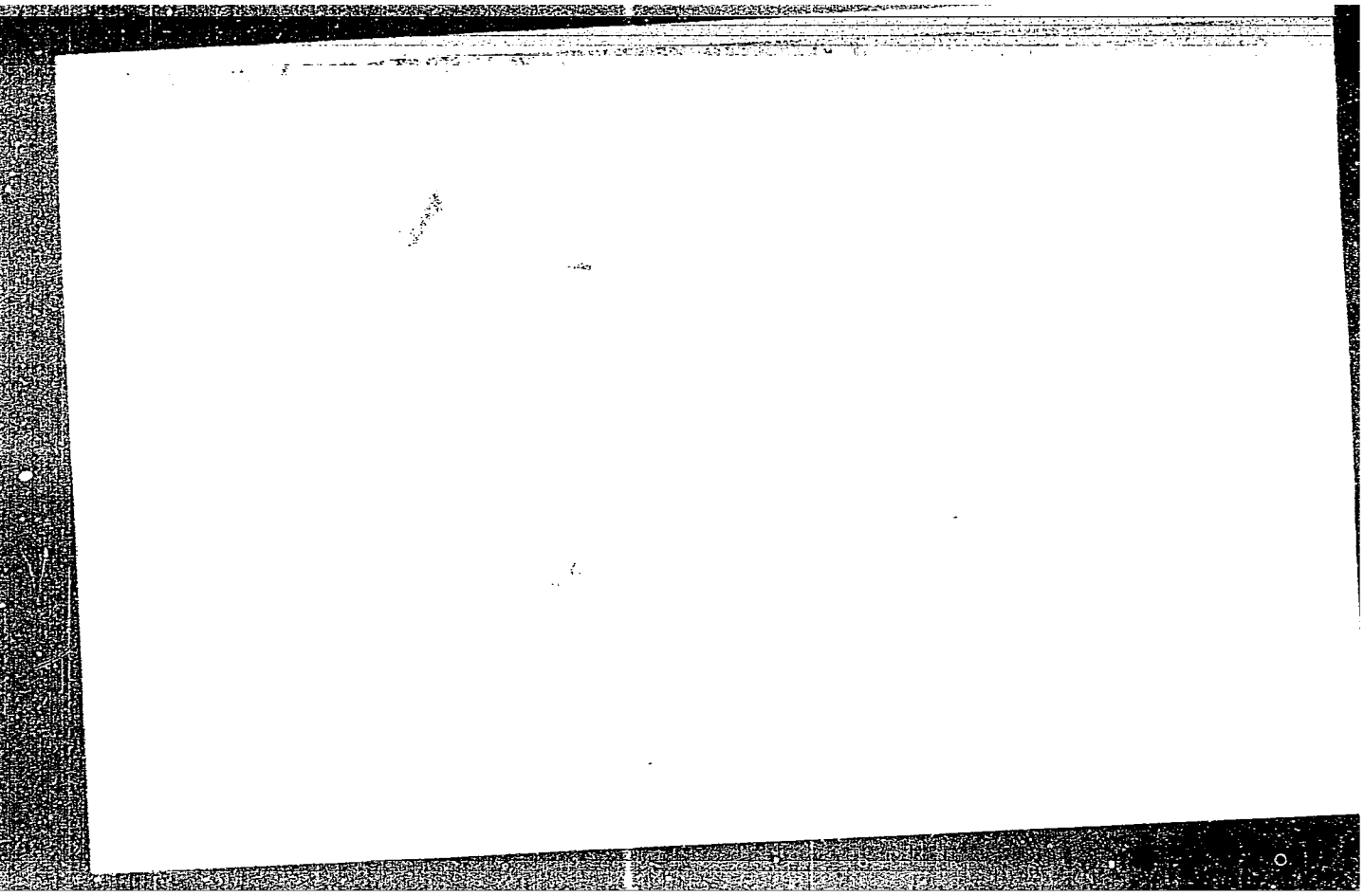
INST. GEOCHEM. AND ANAL. CHEM. IM V.I. VERNADSKIY, AS USSR, MOSCOW

USSR/ Cosmochemistry. Geochemistry. Hydrochemistry D.

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11548

The author is of the opinion that isotope composition of oxygen of sulfates that separate from sea water provides no information concerning the isotope composition of sea water at the time of separation of the mineral. Isotope composition of the oxygen of natural sulfates reaches an equilibrium with oxygen of sea water within 4 -5 centuries. Heterogeneous exchange of sulfates with dry gaseous carbon dioxide proceeds considerably slower than in solutions.

Card 2/2



AUTHOR: None Given 5-6-14/42

TITLE: Chronicle of the Activity of the Paleontological Section (Khronika deyatel'nosti paleontologicheskoy sektsii)

PERIODICAL: Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel Geologicheskiy, 1957, # 6, pp 127-128 (USSR)

ABSTRACT: The following reports were delivered in the Paleontological Section from 19 April to 10 May 1957:

I.A. Mikhaylova on "Systematization of Paragoplitides (?)"; V.V. Drushchits on "Paleontological Basis for the Stratigraphy of the Lower-Cretaceous Deposits in the Crimea"; B.T. Yanin on " Lower-Cretaceous Trigonias of the Crimea"; R.V. Teys, D.P. Naydin and M.S. Chupakhin on "Determination of Paleotemperatures by the Isotopic Composition of Oxygen in Organogenous Calcite"; and R.F. Gekker, A.I. Osipova and A.D. Slyusareva on the "Kazan' Sea of the Russian Plateau and Its Fauna".

AVAILABLE: Library of Congress

Card 1/1

AUTHORS: Teys, R.V., Naydin, D. P., Chupakhin, M.S. 5-6-41/42

TITLE: Determination of Paleotemperatures by the Isotopic Composition of Oxygen in Organogenous Calcite (Opredeleniye paleotemperatur po izotopnomu sostavu kisloroda organogennogo kal'tsita)

PERIODICAL: Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel Geologicheskiy, 1957, # 6, p 153 (USSR)

ABSTRACT: The method of isotopic paleothermometry is based on the equilibrium distribution of the heavy isotope of oxygen O^{18} between the oxygen of water and $CaCO_3$ precipitated from the water. This distribution depends on the temperature of precipitation. Many characteristics of the paleobiology of fossil organisms (life duration, surrounding medium, etc) can be cleared up by making use of temperature "records" in carbonates.

The authors elaborated an experimental temperature scale which was obtained by settling $CaCO_3$ out of $Ca(HCO_3)_2$ solutions in a thermostat at various temperatures. Comparing with this scale, several dozens of fossil shells from the Cretaceous deposits of the Russian plateau and Crimea were investigated. The most reliable results were obtained from belemnites whose calcite preserves the initial isotopic

Card 1/2

Determination of Paleotemperatures by the Isotopic Composition of Oxygen in Organogenous Calcite

composition of oxygen without alterations. The authors present some temperature values obtained by this method by using belemnites, oysters and other fossils from various stratigraphic formations.

AVAILABLE: Library of Congress

Card 2/2

TEYS, R. V.

USSR/Chemistry - Isotopes 11 Jul 51

"Isotope Method of Determining Temperatures of the Formation of Carbonate Minerals," R. V. Teys, Inst of Geochem and Analyt Chem imeni V. I. Vernadskiy, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXIX, No 2, pp 291-294

Describes detn by oxygen by isotope method of temp of formation of natural calcium carbonate deposits. An empirical scale established by pptg $CaCO_3$ in the laboratory is used for this purpose. The values on this scale agree very well with those obtained by N. P. Yermakov's bubble method.

214T13

TEYS, R.V.

USSR/Geology - Geochemistry

Card 1/1 Pub. 22 - 26/45

Authors : Teys, R. V.

Title : The isotopic composition of crystallization water

Periodical : Dok. AN SSSR 99/4, 585-588, Dec 1, 1954

Abstract : Data regarding the isotopic composition of crystallization water are presented. The effect of D_2 on the various properties of crystal hydrates and the O^{18} concentration in crystallization water of solid crystal hydrates, were investigated and the results obtained are given in tables. Four references: 2-USSR; 1-German and 1-Swiss (1938-1954). Tables; graphs.

Institution : Academy of Sciences USSR, The V. I. Verndskiy Institute of Geochemistry and Analytical Chemistry

Presented by: Academician A. P. Vinogradov, September 28, 1954

Teys, R. V.

USSR/ Chemistry--Atomic structure

Card 1/1 Pub. 86--38/39

Authors : Teys, R. V.

Title : Heavy water

Periodical : Priroda 44/1, 127--128, Jan 1955

Abstract : The nature of heavy water is explained, the extent to which it is found in nature is stated, its characteristics including its boiling and melting points are described, and the role it plays in natural functions as well as its use in the laboratory is pointed out.

Institution : .....

Submitted : ....

TEYS, R V

USSR

Isotopic method for the determination of the formation temperatures of carbonate minerals. R. V. Teis. *Doklady Akad. Nauk S.S.S.R.* 79, 291–4(1951); cf. McCrea, *C.A.* 44, 10395*f*.—The investigation of the isotopic compn. of O in carbonates which were pptd. from hydrothermal solns. in nature is started with a study of the calcite deposits of hot wells of Pyatigorsk (N. Caucasus) at different temps. Further, exptl. pptns. were made from CO_2-supersatd. solns. of $CaCO_3$ in the lab., at 80.5° and 10°. The isotopic compn. of O in the pptd. carbonates is slightly different from that of O from water in which the solns. have been made. This difference in the contents in O^{18} (in γ) is detd. by d. measurements with an accuracy of 0.07 to 0.20 γ, and corresponds to an accuracy of the corresponding formation temps. of 4° to 5°. Some subterraneous waters of wells from Tadzhikistan and Pyatigorsk were examd. for their isotopic compn.; they are somewhat different ($\Delta\gamma$ = +3.7 to 0) with increasing temp. of the wells. Four calcites from Sikhote-Alin (Tetyukhe) were also examd. by the bubble inclusion method of Ermakov; the formation temps. agree with those derived from the isotopic detns. which fit a characteristic $\Delta\gamma$/temp. curve. The $\Delta\gamma$ values are for hydrothermal formations neg. (0 to −3.20 γ are measured), and correspond in this range to "isotopic temps." from 115° to 300°, also in very good agreement with temp. esths. from the paragenetic conditions of the deposits. V. F.

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TEYS, R.V.; NAYDIN, D.P.; CHUPAKHIN, M.S.

Determining paleotemperatures from the isotone composition of oxygen of organogenous calcite. Biul. MOIP. Otd. geol. 32 no.6:153 N-D '57. (MIRA 11:4)
(Earth temperature) (Calcite) (Oxygen--Isotopes)

TEYS, R.V., doktor khim.nauk

Heavy oxygen in nature. Priroda 50 no.4:31-34 Ap '61.
(MIRA 14:4)
(Oxygen--Isotopes)

TEYS,R.V., Doc Chem Sci--(diss) "The role of water in the distribution of isotopes of oxygen and hydrogen in nature." Los, Publishing House of the Acad Sci USSR., 1959. 22 pp with graphs. (Acad Sci USSR. Inst of Geochemistry and Analytical Chemistry im V.I.Vernadskiy),200 copies

(KL,49-58,120)

5(0)

AUTHORS: Teys, R. V., Gromova, T. S.
Kochetkova, S. N.

SOV/20-122-6-28/49

TITLE: Isotopic Composition of Natural Phosphates (Izotopnyy sostav prirodnykh fosfatov)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 6, pp 1057 - 1060 (USSR)

ABSTRACT: The method of isotopic paleothermometry (Refs 1 - 3) is the most important application of isotopic analysis to the solution of geochemical problems. This method is based on the dependence of the distribution of the heavy oxygen isotope between the oxygen of water and the mineral on temperature, that means it is based on the isotopic exchange between these two components. The oceans are an immense reservoir of oxygen that hardly changes its isotopic composition in the course of geological time. Therefore, its isotopic composition can be regarded as constant and equal to a certain average value. However, this condition of a constant water background (vodnyy fon) is not always and not everywhere complied with. Therefore, the possibilities of isotopic paleothermometry are limited by insufficient

information on the character and the causes for the fluctuations in the isotopic composition of sea water. At present only the carbonate paleothermometry is elaborated, as carbonates in the solution exchange their oxygen quickly enough with that of water. If it were possible to find any reaction mechanism that would prompt the oxygen exchange of another mineral with the oxygen of water, two equations with two unknown quantities could be obtained; the precipitation temperature and the isotopic composition of the aqueous phase would be the unknown quantities here. The solution of these equations with respect to both unknown quantities would make it unnecessary to know the isotopic composition of the oxygen of water, which has been necessary up to now. The authors succeeded in ascertaining that the oxygen of the sulfate is exchanged very slowly with the oxygen of water (Ref 4). Thus sulfates cannot serve as mineral thermometers. A phosphate temperature scale was then suggested (Refs 2, 3, 5). The phosphates exchange their oxygen with water even more slowly than sulfates. The heterogeneous exchange with carbonic acid was investigated with two samples of apatite (from the Lake Baikal and from the Khibiny). The velocity

constants and the half-periods of the exchange at 700, 900 and 1100° are given in table 2. Figure 1 shows the isothermal lines of these measurements, whereas figure 2 gives the isoteres. By extrapolation of these data into the range of normal temperatures (20°), $1.3 \cdot 10^7$ hours is obtained for the half-period of the exchange. The isotopic composition of natural phosphates has never been investigated. The authors used apatites and phosphorites for this purpose. The oxygen of these substances has proved to be lighter than that of river water. From table 3 it can be seen that apatite contains less O^{18} than river water. Contrary to expectations, the content of O^{18} in the phosphorites of podolite was lower than that of river water. It can be seen from the data of the authors that there is a difference between the relations between the isotopic composition of the oxygen of water, the sulfates and the phosphates. Natural sulfates mostly have a composition approaching the equilibrium with the oxygen of sea water (Ref 4), whereas the oxygen of natural phosphates is considerably different. There are 2 figures, 3 tables, and 9 references, 5 of which are Soviet.

Isotopic Composition of Natural Phosphates SOV/20-122-6-28/49

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo Akademii nauk SSSR (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy of the Academy of Sciences, USSR)

PRESENTED: June 3, 1958, by A. P. Vinogradov, Academician

SUBMITTED: May 28, 1958

Card 4/4

TEYS,Ye.

Shortcomings in training road maintenance technicians. Avt.dor. 17 no.1:32 Jl-Ag'54. (MLRA 8:10)
(Road construction--Study and teaching)

TEYS, Ye.G., inzh.

Pay more attention to field work for students. Avt.dor. 21 no.9:25 S '58. (MIRA 11:11)

(Road construction workers) (Field work (Educational method))

RICNY, Drahoslav; SUMBERA, Jan; TEYSCHL ML, Otakar

Streptokinase skin test in diagnosis of rheumatism in children.
Cesk. pediat. 12 no.8:677-681 5 Aug 57.

1. II detska klinika Masarykovy university v Brne, prednosta akademik prof. Dr. Otakar Teyschl Biochemicke oddeleni krajske detske nemocnice v Brne, prednosta prim. Dr Otakar Teyschl ml.
(RHEUMATISM, in inf. & child,
diag., streptokinase skin test (Cz))
(STREPTODORNASE AND STREPTOKINASE
streptokinase skin test in diag. of rheum. in child. (Cz))

TEYSCHL, O.

Serologic studies in children treated with streptomycin.
Pediat. listy 5 no. 4:196-198 July-Aug. 1950. (CIML 20:1)

1. Of the Children Clinic of the Masaryk University in Brno.

TEYSCHL, O.

Some medical problems in the countries of Eastern Asia.
Cesk. pediat. 12 no.2:154-165 Feb 57.

(MEDICINE
in E. Asia (Cz))

MACKU, M.; KLUSKA, V.; TEYSCHL, O.

Further experiences in therapy of the scarlet fever. Lek. listy, Brno 8 no.13:306-309 1 July 1953. (CLML 25:1)

1. Of the Infectious Department (Head--Docent V. Kluska, M.D.) of Pediatric Hospital, Brno. 2. Penicillin and sulfonamides.

VITEK, Bohumil; TEYSCHIL, Otakar

Leukocytosis after intradermal application of streptokinase in children with rheumatic fever. Cesk.pediat. 15 no.9:806-811 S '60.

1. II detska klinika v Brne, prednosta akademik Otakar Teyschl Biochemicke oddeleni KDN v Brne, prednosta prim. dr. Otakar Teyschl.

(RHEUMATIC FEVER in infancy & childhood)
(STREPTODORNASE AND STREPTOKINASE pharmacol.)
(LEUKOCYTOSIS etiol.)

TEYSCHL, Otakar, Akademik

Toxinfectious allergies in children. Cas. lek. cesk. 97 no.17:529-535 25 Apr 58.

1. Adres autora: Brno-Cerna Pole.
(ALLERGY, in inf. & child
toxinfect. allergy (Cz))

TEYSCHL, Ot., Akademik (Brno, Cerna Pole)

Protection of normal development of the new generation. Cas. lek. cesk. 97 no.23-24:745-746 6 June 58.

1. II. detska klinika, Brno, prednosta akademik Otakar Teyschl.
(CHILD WELFARE,
in Czech. (Cz))

TEYSCHL, O.

Physical education of new-born. Lek. listy, Brno 8 no.10:221-225
15 May 1953. (CLML 24:5)

CHLUPACKOVA, V.;RICNY, D.;SUMBERA, J.;TEYSCHL, O.

Five suggestions for the improvement of pediatric therapy. Cesk. nemoc. 18 no.6:130-133 Aug 1950. (CLML 23:2)

TEYSCHL, Otakar, Akademik

Tasks of pediatrics in Czechoslovakia. Cas. lek. cesk. 95 no.38: 1037-1042 21 Sept 56.

1. Brno, detska klinika.
(PEDIATRICS,
in Czech. (Cz))

TEYSCHL, Otakar; RICNY, Drahoslav; SRACKOVA, Danuse; KOCOURKOVA, Alena; VITEK, Bohumil

Staphylococcal infections in preschool and school children. Cas.lek. cesk 100 no.31:961-964 4 Ag '61.

1. II detska klinika lekarske fakulty v Brne, prednosta akademik Otakar Teyschl.

(STAPHYLOCOCCAL INFECTIONS in inf & child)

STANEK, Miroslav, inz.; TEYSSLER, Jiri, inz., dr.; FISCHER, Jiri, inz.; SPITALNIK, inz.; STEKL, inz.; NAVRATIL, Miroslav, inz., dr.; IBLER, Jaroslav, inz., dr.; KARAS, Frantisek, prof., inz., dr., ScDr.; CESKA, inz.; HOFFMANN, V., inz.; CHALUPSKY, Josef, inz.; FAPSO, O., inz.; ROCEK, Jaroslav, inz., ScC.; SVEJDA, J., inz.; LENCZ, Imrich, inz.; RAJDA, Frantisek; BALOS, Jaroslav, inz.; MACHA, Jiri, inz.

Third National Conference on the Results of Research and Development of Power Installations. Energetika Cz:Suppl.: Energetika 13 no.6:1-24 '63.

TEYSSLER, Jiri, inz., dr.

Notes on the article "Television and power engineering dispatching" by E.S.Hokes. Energetika Cz 11 no.9:473 S '61.

TEYSSLER, Jiri, inz., dr.

Experimental determining of the economic effectiveness of steam boiler automation. Energetika 12 no.1:10-13 Ja '62.

1. Organizace pro racionalizaci energetickych zavodu n.p., Praha.

LOKTIONOVA, N.A.; KULAKOV, V.I.; KRIVENKO, R.A.; TEYTEL', I.L.

Reducing residual stresses in aluminum alloy ingots. Metalloved. i term. obr. met. no.11:46-47 N '63. (MIRA 16:11)

SUMBERA, Doc., Dr.; TEYSCHL, O., Akademik

Kaglusal as a new dietetic preparation for the treatment of diarrhea. Cesk. pediat. 11 no.4:260-266 Apr 56.

1. II. Klinika detskych nemoci Masarykovy university v Brne, Cerna Pole, prednosta: Prof. Dr. Otakar Teyschl.
(DIARRHEA, in infant and child,
ther., dietetic method with dried carrot, sugar, starch & salt mixture. (Cz))
(DIETS, in various diseases,
diarrhea in inf., dried carrot, sugar, starch & salt mixture. (Cz))

KUCERA, M.; TEYSCHL, O.

Relation of the origin and course of otitis in children to the reactivity of the organism. Cesk. otolar. 8 no.4:186-188 Aug 59.

1. Oddeleni pro nemoci usni, nosni a krcni a oddeleni biochemicke Krajske detske nemocnice v Brne, primar MUDr M. Kucera, primar MUDr. O. Teyschl.

(OTITIS MEDIA, in inf. & child)

TEYSCHL, O.;TOMAN, M.

Project for pediatric health centers in new socialistic centers in Ostrava. Pediat. listy, Praha 7 no. 3:131-133 May-June 1952. (CIML 22:4)

TEYSCHI, O., prof. Dr

Problem of pneumonia in children. Pediat. listy, Praha 9 no.4: 194-199 June-Aug 54.

1. Detska klinika, Brno.
(PNEUMONIA, in infant and child,)

TEYSCHL, O.

MACKU, Milos, MUDr; TEYSCHL, Otokar, ml., MUDr

Lungs in certain viral diseases. Pediat. listy, Praha 9 no.4: 211-214 June-Aug 54.

1. Z infekcniho oddeleni Krajske detske nemocnice v Brne, prednosta doc. MUDr Vladimir Kluska.

(LUNGS, in various diseases, measles & polio.)
(MEASLES, pathology, lungs)
(POLIOMYELITIS, pathology, lungs)

TEYSCHL, Otokar, Prof. Dr; MUZIK, Josef, Dr

Wanted and unwanted children. Neur. & psychiat. cesk. 17 no.3: 186-190 Je '54.
(CHILD,
*wanted & unwanted)

TEYSCHL O. Z. brnenske detske kliniky. Dusevni vychova novorozencu a kojencu Psychological education of newborns and children Pediatricke listy, Prague 1949, 4/6 (233-239)

The newborn period is very important for the future psychological development and psychic pattern of the child, because for instance the crying of the newborn is not only the first means of social communication but very often the first social conflict of the child with his environment. Crying is the first basic refles, which becomes corticalized very soon after birth, but many infants, instead of being the psychological objects who should be educated, try to become the psychological subjects who try to educate and tyrannize their own mothers, misusing the crying for their pleasure even in moments when no help is needed. Cephalocaudal development of conditioned reflexes explains why the ontologically younges and most highly organized reflexes such as micturition, defaecation, speech and nocturnal sleep easily become disorganized under the influence of an emotional strain or when the child is not properly educated. Therefore in all disturbances of these conditioned reflexes in otherwise neurologically healthy children some error of education or inadequate approach to the child should be suspected

Author (VII, 8)

SO: Neurology & Psychiatry Section VIII, Vol 3, No 7-12

TEYSCHL O. Priznaky, prubeh a diferencialni diagnosa detske obrny Symptomatology course and differential diagnosis of poliomyelitis Casopis lekaru ceskych, Prague 1949, 88/44(1281-1286)

A concise, but instructive survey for the general practitioner of the symptomatology, course and differential diagnosis of meningeal, spinal and especially the initial symptoms of the bulbar stage of poliomyelitis.

Author (XX,8)

So: Neurology & Psychiatry Section VIII, Vol. 3, No. 7-12

TEYSCHL, O., SUCHERA, J.

Treatment of alimentary toxicosis by means of subcutaneous infusions. Pediat. listy 5:3, May-June 50. p. 131-8

1. Of the Children's Clinic of Masaryk University in Brno.

CLML 19, 5, Nov., 1950

TEYSCHL, O. Z.
234

Brnenske detske Klin. M.U. Serologicka studie u deti lecenych streptomycinem A serological study made in children treated with streptomycin Pediat. Listy 1950, 5/4 (196-198)

As during treatment of tb meningitis with streptomycin a great number of M. tuberculosis are killed in the CSF of the patient, it was tried without success to find any antigenic qualities in this fluid, using the principle of the c.f.t. The amount of complement in the blood of the patients is higher than in their CSF.

Bloch - Amsterdam (XX, 4,8)

SO: EXCERPTA MEDICA, Vol. 5, No. 1, Sec. VIII, Jan. 1952

TEYSCHL, O.

Congenital principles in the law of mental development of child. Lek. listy, Brno 6 no.24:741-745 15 Dec 51. (CLML 21:5)

TEYSCHL, Otakar, akademik

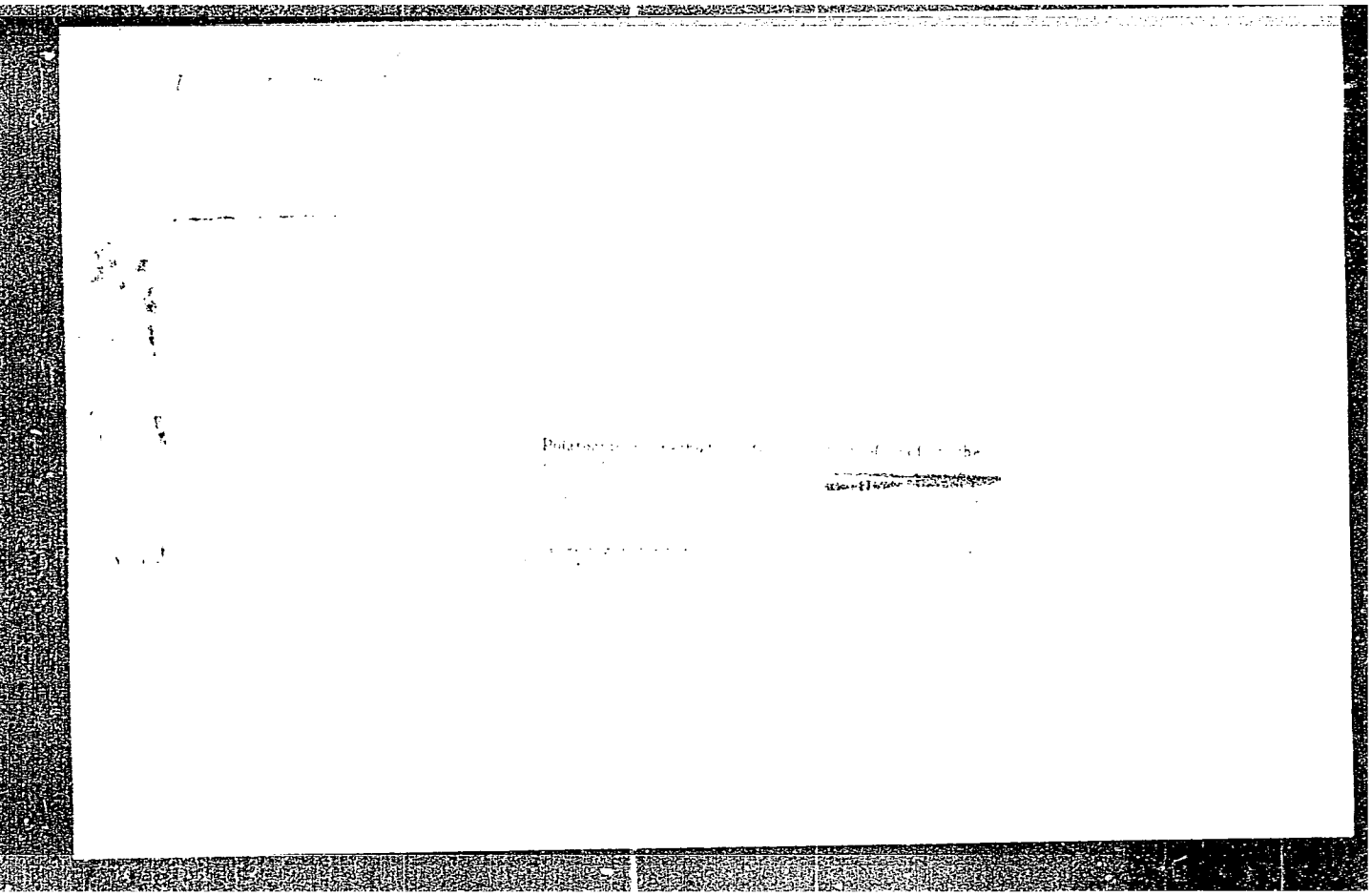
Mental education of newborn infants. Cesk.pediat. 10 no.3:186-190 Apr 55.

1. II. detska klinika, Brno.
(INFANTS, NEWBORN,
mental train., psychol. aspects)

SRACKOVA, D.; TEYSCHL, O.; TUMA, A.

Value of the determination of bilirubin fractions in icterus neonatorum. Cesk. pediat. 20 no.10:849-854 O '65.

1. II. detska klinika lekarske fakulty University J.E. Purkyne v Brne (prednosta prof. dr. M. Toman) a Ustredni laborator Fakultni detske nemocnice v Brne (vedouci MUDr. O. Teyschl).



TRYSINGER, Yaroslav

Polarographic method of determining lead in the blood and its clinical significance. Gig. i san., no.8:28-31 Ag '54. (MLRA 7:9)

1. Iz kliniki professional'nykh zabolevaniy i gigiyeny truda v Prage.
(BLOOD,
lead, polarography)
(LEAD, in blood,
determ., polarography)
(POLAROGRAPHY,
of lead in blood)

TEYSS L.A.

LUSHCHIK, Ch.B.; ZAITOV, F.N.; KARK, V.Ya.; TEYSS, L.A.; YAEK, I.V.

Investigation of capture centers and kinetics of relaxation processes in alkali halide crystal phosphors. Izv. AN SSSR. Ser. fiz. 21 no.5:693-694 My '57. (MLRA 10:8)

1. Institut fiziki i astronomii Akademii nauk ESSR i Tartuskiy gosudarstvennyy universitet.
(Luminescence--Congresses) (Phosphors--Congresses)

TEYSS L.A.

48-5-27/56

SUBJECT: USSR/Luminescence

AUTHORS: Lushchik, Ch.B., Zaitov, F.N., Kark, V.Ya., Teyss, L.A. and Yaek, I.V.

TITLE: Investigation of Capture Centers and Kinetics of Relaxation Processes in Alkali-Haloid Crystallophosphors (Issledovaniye tsentrov zakhvata i kinetiki relaksatsionnykh protsessov v shchelochno-galoidnykh kristallofosforakh.)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1957, Vol 21, #5, pp 693-694 (USSR)

ABSTRACT: The role of capture centers of various types in recombinational luminescence of alkali-haloid crystallophosphors was studied by several methods.
Capture centers of a basic substance (F, F'', M, O, P, etc) and capture centers created by bi-valence admixtures Ca^{2+} and Sr^{2+} are manifested in thermal de-luminescence and optical flash. The number and main characteristics of these centers can be considerably changed by means of plastic deformation and temperature treatment.
The effect of several activators (Ag^{+}, Cu^{+}, Tl^{+}, Pb^{2+} and Mn^{2+}) on the spectrum of excited absorption, thermal de-luminescence and thermal decolorization of phosphors based on NaCl and KCl

Card 1/2

48-5-27/56

TITLE: Investigation of Capture Centers and Kinetics of Relaxation Processes in Alkali-Haloid Crystallophosphors (Issledovaniye tsentrov zakhvata i kinetiki relaksatsionnykh protsessov v shchelochno-galoidnykh kristallofosforakh.)

was investigated. Especially many electrons are stored in phosphors with two activators (e.g., NaCl-Ca^{2+}, Ag^{+}). Activator capture centers are also manifested in recombinational luminescence, but their existence is often disguised by temperature quenching.

The distribution of electrons and holes over capture levels essentially changes during the processes of decay and flash.

This distribution, which is established in the result of a lasting excitation by X-rays, is not a temperature equilibrium one. The degree of filling capture levels by electrons can be as high as 30 %, but is not complete. The report was followed by a discussion. One Russian reference is cited.

INSTITUTION: Institute of Physics and Astronomy of the Estonian Academy of Sciences and Tartu State University.

PRESENTED BY:

SUBMITTED: No date indicated.

AVAILABLE: At the Library of Congress.

Card 2/2

S/048/61/025/001/004/031
B029/B067

9.6150 (also 1137, 1395)

AUTHORS: Klement, F. D., Teyss, L. A.

TITLE: Effect of isostructures on the spectra of activated mixed crystals

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 1, 1961, 28-30

TEXT: The authors studied the effect of isostructures on the emission spectrum of the KCl.KBr-Tl crystal phosphor. This phosphor was excited in various narrow regions within the excitation band of the activator. If the excitation band is a superposition of bands emitted by centers with different isostructures, the shape is bound to change or the maximum of the emission band is bound to be shifted. Fig. 1 shows the short-wave emission band of the 80 KCl.20 KBr- 0.05 Tl phosphor. In the case of a shift of the excitation range toward longer waves, the maximum of the emission band is also shifted toward longer waves in the same direction. The positions of the maxima of the emission band cover almost the entire region between the positions of these maxima in the corresponding single-component phosphors,

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i.e., in the emission spectrum of a mixed crystal, the centers with different isostructures up to isostructures with 6 Br^- ions are arranged round a Tl^+ ion. In spite of the low content of 20 mole% KBr, the phosphor emission spectrum is similar to that of isostructures with predominating bromine content, and the band corresponding to the pure KCl is lacking. According to the authors, Tl^+ is mainly contained in the isostructures with the highest number of heavy Br^- ions. Also the second maximum of the ultraviolet emission bands characteristic of the KBr - Tl phosphor is lacking. Similar experiments were made with other ratios of the components KCl + KBr, as well as with phosphors of the type NH_4Cl + NH_4Br - Tl, in which mainly the same results were obtained. At a Br^- content of 50 mole%, the position of the emission band does not depend any more on the region of excitation and agrees fully with the corresponding position in pure KBr. If, at a low KBr content, the activator concentration is increased, the filling of the isostructures with 5 Br^- is bound to occur after the filling of the isostructures with 6 Br^-, etc. The existence of isostructures of different composition in the mixed crystals makes it possible to explain various other phenomena (increased width of the absorption and

emission bands of the activator, as well as of the F-bands in mixed crystals). Ch. B. Lushchik mentioned the influence of isostructures on the width and shape of the peaks of thermal illumination. According to the authors, spectroscopic treatment of isostructures in mixed crystals with activators consisting of rare-earth elements is especially promising. This is the reproduction of a lecture read at the Ninth Conference on Luminescence (Crystal Phosphors), Kiyev, June 20-25, 1960. There are 2 figures and 3 Soviet-bloc references.

Legend to Fig. 1: 1) 240 mμ; 2) 245 mμ; 3) 250 mμ; 4) 255 mμ; 5) 260 mμ; 6) 265 mμ exciting wavelength.
Legend to Fig. 2: emission spectra of 87 KCl . 13 KBr -Tl 1) 0.0005; 2) 0.019; 3) 0.2 mole% Tl .

Effect of isostructures on the spectra...

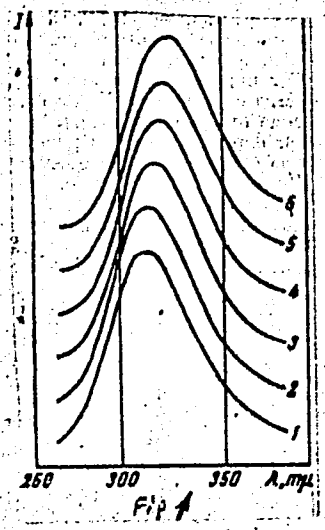

Fig 1

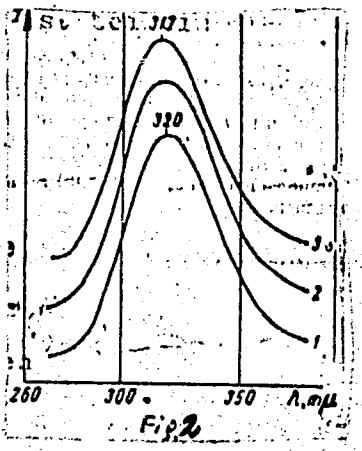

Fig 2

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AUTHORS: Klement, F. D., and Teyss, L. A.

TITLE: The effect of "isostructures" on the spectra of activated mixed crystals

SOURCE: Akademiya nauk Estonskoy SSR. Institut fiziki i astronomii. Trudy. No. 14, 1961. Issledovaniya po lyuminestsentsii, 76-86

TEXT: The authors report an investigation and interpretation of changes in the luminescence emission spectra of (KBr + KCl):Tl and (NH_4Cl + NH_4Br):Tl mixed phosphors with variation of the excitation wavelength. Mixed crystals exhibit the phenomenon of "isostructures" which are regions with different compositions. For example, in KBr + KCl there are seven possible isostructures with K^+ ions surrounded by: (I) 6 Cl^- ions, (II) 5 Cl^- ions and 1 Br^- ions, and so on down to (VII) 6 Br^- ions. The authors suggest that every luminescence band of KBr + KCl crystals consists of several sub-bands, each of these sub-bands representing activator ions occupying sites

in a particular isostructure. The sub-bands could not be distinguished in photoelectric observations of ultraviolet luminescence (~310 mμ) of (KCl + KBr):Tl by means of a СФ-4 (SF-4) spectrophotometer and a ФЭУ-18 (FEU-18) photomultiplier: The sub-bands overlapped too much. The proof of the existence of the sub-bands came from reduction of the wavelength and intensity of the ultraviolet emission peak when the exciting wavelength (λ_e) was varied from 265 to 240 mμ. The emission peak shifted with variation of λ_e because different values of λ_e excited activator centers in different isostructures. It was also found that Tl ions were concentrated preferentially in isostructures with the largest numbers of the heavier (Br) anion which is represented by the longer emission wavelengths. The emission peak wavelength was also reduced by an increase of the activator concentration from 5×10^{-4} to 0.2 mol.%. This was because at higher Tl concentrations more activator ions were available to occupy sites in isostructures for which Tl had less affinity, i.e. isostructures with more Cl ions, which are re-

presented by the shorter emission wavelengths. Similar results were obtained for (NH_4Cl + NH_4Br):Tl phosphors. Acknowledgment is made to N. Kristofel'[4] and K. Rebane for communicating their formula on the number of isostructures in mixed crystals. There are 3 figures and 8 references: 5 Soviet-bloc and 3 non-Soviet-bloc. The reference to the English-language publication reads as follows: G. Durham and J. Hawkins, J. Chem. Phys., 19, 149 (1951).

SUBMITTED: July 16, 1960

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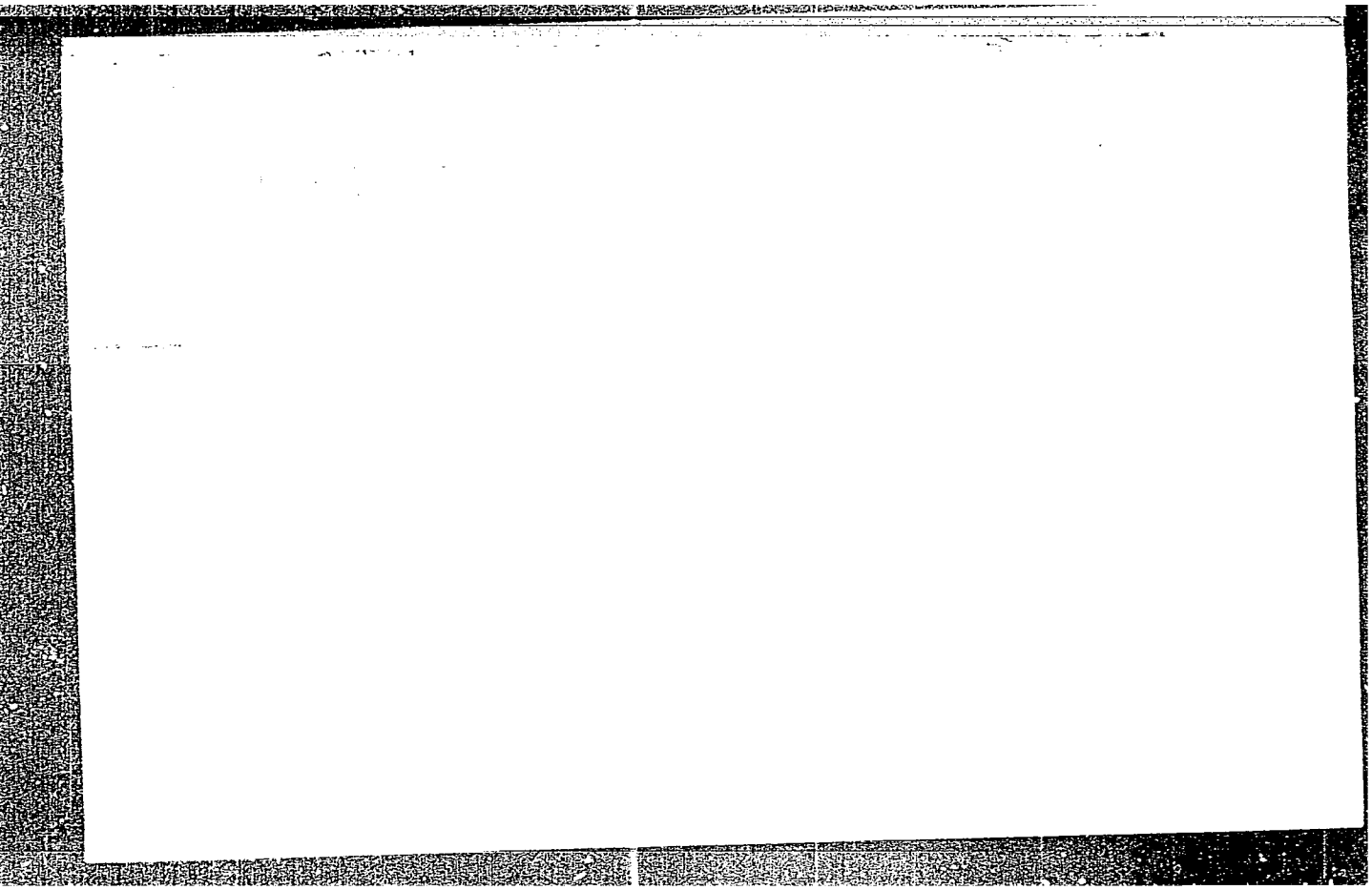

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SOURCE: East European Accessions List, Vol. 5, no. 9, September 1956

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Problem of accuracy of results of thermal tests of steam boilers. p. 146. ENERGETIKA. (Ministerstvo paliv a energetiky. Hlavni sprava elektraren) Praha. Vol. 6, no. 4, Apr. 1956

Source: EEAL LC Vol. 5, No. 10 Oct. 1956